

THE UNIVERSITY OF HONG KONG
LKS FACULTY OF MEDICINE

RGC GRF/ECS 2023-24

List of Awarded Projects

| | Funding Scheme | Department/School | Principal Investigator | Project Title | Grand Total Awarded (HK\$) |
|----|-----------------------|------------------------------------|-------------------------------|--|-----------------------------------|
| 1. | GRF | Department of Anaesthesiology | Dr. G.T.C. Wong | Elucidating the role of IL-1 β /IL-1R signaling dependent Th17 cells differentiation in the pathogenesis of perioperative neurocognitive disorders | 1,020,000 |
| 2. | GRF | Department of Clinical Oncology | Dr. V.H.F. Lee | Role of TCIM in Progression-Fated Subclones in Nasopharyngeal Carcinoma | 1,588,800 |
| 3. | GRF | Department of Diagnostic Radiology | Dr. P. Cao | Integrated Heteronuclear MRI System for Metabolic Imaging Using a Novel Multiple-coil-gradient/radiofrequency(RF)-coil Design | 995,293 |
| 4. | GRF | Department of Medicine | Dr. Y.H. Chan | A Randomized Controlled Trial on Effects of Ivabradine for Strict Rate Control in Persistent Atrial Fibrillation: Ameliorating Myocardial Dysfunction and Inflammation | 1,293,844 |
| 5. | GRF | Department of Medicine | Dr. C.K. Wong | Glucagon-like Peptide-1 Receptor Agonist for Reduction of Peri-operative Myocardial Injury in Non-cardiac Surgeries: A Randomized Controlled Trial | 1,072,696 |
| 6. | GRF | Department of Medicine | Professor A. Xu | STAP1 as a Novel Perpetrator of Metabolic Inflammation: Molecular Basis and Pathophysiological Implications | 1,596,200 |

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| 7. | GRF | Department of Microbiology | Professor Z. Chen | Role of HIV-1-specific antibodies cloned from Δ 42PD-1 positive memory B cells | 1,576,960 |
| 8. | ECS | Department of Microbiology | Dr. X. Li | Characterisation of anti-GM-CSF autoantibodies in COVID-19 patients | 1,445,998 |
| 9. | GRF | Department of Microbiology | Dr. S. Sridhar | Designing next-generation molnupiravir-based treatment regimens for chronic hepatitis E using immunocompromised animal models | 1,490,184 |
| 10. | GRF | Department of Microbiology | Dr. Z. Tan | Mechanism of 'cold' tumor elimination by in situ vaccination using engineered viral vectors | 1,347,464 |
| 11. | GRF | Department of Microbiology | Dr. S. Yuan | Deciphering the roles of Influenza A matrix protein M1-mediated host PFKFB3 SUMOylation during virus infection | 1,473,580 |
| 12. | GRF | Department of Nursing | Dr. P.H. Chau | Mediating and moderating role of health and social care utilisation in the association between social frailty and depression | 1,589,000 |
| 13. | GRF | Department of Nursing | Dr. J.J. Lee | Instant message-delivered personalised acceptance and commitment therapy (IMPACT) for neuropsychiatric symptoms in persons with mild cognitive impairment: a mixed methods study | 932,480 |
| 14. | GRF | Department of Nursing | Dr. Y.W. Lok | An ecological momentary intervention to improve breastfeeding outcomes: a randomised controlled trial | 1,268,280 |
| 15. | GRF | Department of Nursing | Dr. T.T. Luk | Mobile instant messaging-based lifestyle intervention for pregnant women at risk of gestational diabetes: a randomised controlled trial | 1,292,000 |

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| 16. | GRF | Department of Nursing | Professor M.P. Wang | A randomized 2 by 2 factorial trial on mHealth support and financial incentives to promote smoking cessation in deprived older smoke | 1,500,000 |
| 17. | GRF | Department of Nursing | Professor S.F.D. Yu | Effects of the Buddy-Up Dyadic Physical Activity (BUDPA) Program on the health outcomes and social dynamics of persons with dementia and their family caregivers: A mixed-method randomized controlled trial. | 1,186,250 |
| 18. | GRF | Department of Obstetrics and Gynaecology | Dr. C.L. Lee | The maternal contribution to early-onset preeclampsia: A perspective from endometrial gland development and functions | 1,484,248 |
| 19. | GRF | Department of Ophthalmology | Dr. Y.K. Chan | Revisiting the origin of and developing novel strategies to tackle silicone oil emulsification in vitreoretinal surgery | 1,592,680 |
| 20. | GRF | Department of Ophthalmology | Professor K.S. Leung | ROTA-guided Glaucoma Treatment in Patients with Advanced Disease – A Randomized Clinical Trial | 1,600,000 |
| 21. | GRF | Department of Paediatrics and Adolescent Medicine | Dr. B.H.Y. Chung | Application of amniocyte RNA sequencing in deciphering Mendelian diseases in prenatal diagnosis | 1,464,160 |
| 22. | GRF | Department of Paediatrics and Adolescent Medicine | Dr. P. Ip | Profiles and predictors of behavioral resilience among children living in disadvantaged areas: a 6-year longitudinal study from preschool to primary school | 380,230 |
| 23. | GRF | Department of Paediatrics and | Professor W.H. Leung | Preclinical development of chimeric antigen receptor engineered NK-cells for acute myeloid leukaemia | 1,600,000 |

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| | | Adolescent Medicine | | | |
| 24. | GRF | Department of Paediatrics and Adolescent Medicine | Professor W. Tu | Development of gammadelta-T cell exosomes-based therapeutic cancer vaccines against Epstein-Barr virus-associated tumors | 1,600,000 |
| 25. | GRF | Department of Pathology | Dr. X. Mao | Secretory Nidogen 1 triggers the endocytic trafficking of $\beta 5$ integrin in hypoxia induced liver cancer metastasis | 1,400,000 |
| 26. | GRF | Department of Pathology | Dr. C.M. Wong | Deregulation of RNA N4-acetylcytidine modification promotes liver cancer development | 1,545,012 |
| 27. | GRF | Department of Pharmacology and Pharmacy | Professor E.W.Y. Chan | Safety and effectiveness of cardiovascular drugs in the management of atrial fibrillation with mitral stenosis among Chinese patients: a real-world population-based cohort study | 1,098,000 |
| 28. | GRF | Department of Psychiatry | Dr. S.Y.S. Lui | Characterizing clinical and functional outcomes of neurological soft-signs in first-episode schizophrenia: A 10-year follow-up study | 535,368 |
| 29. | GRF | School of Biomedical Sciences | Dr. X. Bao | The role of linker histone H1 lysine acetylation in regulating chromatin compaction and chromatin-templated processes | 1,599,920 |
| 30. | GRF | School of Biomedical Sciences | Dr. C.P. Chan | SARS-CoV-2 main protease 3CLpro cleaves zinc-finger antiviral protein ZAP as a viral countermeasure against host restriction | 1,600,000 |
| 31. | GRF | School of Biomedical Sciences | Dr. R. Hervas Millan | Cryo-EM structure of mammalian CPEB2, a neuronal amyloid implicated in memory persistence | 1,599,700 |

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| 32. | GRF | School of Biomedical Sciences | Dr. J.W.K. Ho | Charting clonal dynamics in nasopharyngeal carcinoma using a mitochondrial-enriched single cell RNA-seq approach | 1,600,000 |
| 33. | GRF | School of Biomedical Sciences | Professor M.S.Y. Huen | Regulation of Transcription Recovery on the Damaged Chromatin | 1,596,000 |
| 34. | GRF | School of Biomedical Sciences | Dr. R. Jauch | Defining the evolutionary origin for the capacity of SOX and POU transcription factors to heterodimerise as possible foundation of stemness and animal multicellularity | 1,561,000 |
| 35. | GRF | School of Biomedical Sciences | Professor D. Jin | Activation of innate DNA sensing by IFI16 through direct binding with cGAMP | 1,600,000 |
| 36. | GRF | School of Biomedical Sciences | Dr. S.C. Kwon | Single-nucleotide resolution mapping of RNA-targeting Cas13 cleavage sites | 1,400,000 |
| 37. | GRF | School of Biomedical Sciences | Dr. C.W. Lee | Regulation of local mRNA translation by FMRP and m6A modification in axonal outgrowth and synaptogenesis | 1,600,000 |
| 38. | GRF | School of Biomedical Sciences | Dr. G.S.H. Ling | Elucidating how type 2 diabetes impairs anti-viral Th1 responses via lipid peroxidation | 1,602,756 |
| 39. | GRF | School of Biomedical Sciences | Professor P. Liu | Investigation of Tumor suppressor protein p53 in cell lineage development in mouse pre-implantation embryos and in human pluripotent stem cell differentiation | 1,600,000 |
| 40. | ECS | School of Biomedical Sciences | Dr. Y. Liu | Histone variant H3.3 deposition at heterochromatin by histone chaperone DAXX and chromatin remodeler | 1,496,193 |

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| | | | | ATRX | |
| 41. | GRF | School of Biomedical Sciences | Professor S.K.Y. Ma | Oncofetal protein MAP2-induced tumor plasticity as a possible therapeutic window for hepatocellular carcinoma | 1,600,000 |
| 42. | ECS | School of Biomedical Sciences | Dr. T. Ni | Decipher the Structure and Mechanism of Coronavirus RNA Translocation Pore | 1,575,681 |
| 43. | ECS | School of Biomedical Sciences | Dr. J.H.D. Shih | Scalable variable selection with non-local priors for multivariate analysis of high-dimensional biological data | 1,575,589 |
| 44. | GRF | School of Biomedical Sciences | Dr. W.H.J. Wong | Functional characterisation of cancer hotspot mutations in XPD (xeroderma pigmentosum group D protein) | 1,599,980 |
| 45. | GRF | School of Biomedical Sciences | Dr. C. Yu | Investigating the molecular mechanism of mechano-sensitive activation and substrate compliance of integrin beta6 receptor | 1,600,000 |
| 46. | GRF | School of Biomedical Sciences | Professor Z. Zhou | Functional investigation of Isthmin-1 in branching morphogenesis during early kidney development | 1,592,000 |
| 47. | GRF | School of Chinese Medicine | Dr. H. Chen | Mettl3-mediated m6A modification of Ndrgl promotes acute kidney injury (AKI) sensitivity in diabetic nephropathy | 1,509,872 |
| 48. | GRF | School of Chinese Medicine | Dr. X. Lin | Role of STING/IFN-I axis in the pathogenesis of primary Sjogren's syndrome | 1,506,800 |
| 49. | GRF | School of Chinese Medicine | Professor J. Shen | Elucidating roles of adaptor protein APPL2 in inhibiting adult neurogenesis via affecting mitochondrial function, | 1,190,264 |

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| | | | | redox signaling and mitochondrial dynamics in ischemic stroke with hyperglycemia | |
| 50. | GRF | School of Public Health | Dr. D. Montero Barril | Ethnic-specificity in cardiac capacity: shedding light into the Chinese heart at work | 1,538,400 |
| 51. | GRF | School of Public Health | Dr. M.Y. Ni | Psychiatric sequelae of population shocks in Hong Kong: a 15-year prospective cohort study | 1,173,600 |
| 52. | GRF | School of Public Health | Dr. M.F.P. Siu | Vigorous- versus moderate-intensity exercise to reduce liver fat in adults with obesity and non-alcoholic fatty liver disease (NAFLD): A randomized controlled equivalence trial | 1,580,000 |
| 53. | GRF | School of Public Health | Dr. L. Tian | The glass roots of esophageal cancer in China: needle-shaped diatom frustules in trash fish | 1,400,000 |
| 54. | GRF | School of Public Health | Dr. S.S. Wong | Systematic investigation into the breadth of antibody and B cell cross-reactivity to avian influenza neuraminidase (NA) proteins in humans | 1,552,817 |
| Total Number of Successful Projects: | | | | | 54 |
| Total Amount of Grants Awarded: | | | | | HK\$ 76,819,299 |