

# Research Postgraduate Student Innovation Award 2023-24

The Research Postgraduate Student Innovation Award was established in 2022 to promote innovation and interdisciplinary research. Up to ten awards may be made each year to students with the most exciting and innovative research ideas.

## SELECTION COMMITTEE

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Professor D. Jin, School of Biomedical Sciences (Chairperson)  
Professor X. Cui, Department of Physics  
Professor R.T.H. Ho, Department of Social Work and Social Administration  
Dr M. Tang, Technology Transfer Office  
Professor K.K.Y. Wong, Department of Electrical and Electronic Engineering  
Professor C. Zhang, Faculty of Dentistry

## AWARDEES

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### **Mr Alfred AMRUTH, Department of Physics**

Project title: Using Nature's Cosmic Telescopes to Study Dark Matter

### **Mr Nan CHEN, Department of Mechanical Engineering**

Project title: Design and Control of a Single-actuated, Self-rotating Tail-sitter Vertical Take-off and Landing (VTOL) Unmanned Aerial Vehicle (UAV) with Foldable Wings and Ballistical Launch

### **Mr James Njiraini GACHANJA, Department of Urban Planning and Design**

Project title: Mtaa Wetu -Our Neighbourhood Planning App: a web-based urban analysis and citizen level of satisfaction application

### **Miss Kee Wah LEONG, Department of Mechanical Engineering**

Project title: Regulating ion storage for a high performing aqueous magnesium-ion battery

### **Miss Xueying LYU, School of Clinical Medicine**

Project title: Discovery of HBV integration biomarker based on deep learning model for neoadjuvant nivolumab treatment in HBV-associated hepatocellular carcinoma

### **Mr Ruibin MAO, Department of Electrical and Electronic Engineering**

Project title: ReRAM-based in-memory vector database equipped with efficient and versatile search for next-generation AI-powered edge devices

### **Mr Mengjie WU, School of Clinical Medicine**

Project title: Small-molecule inhibition of RNA cytidine acetyltransferase NAT10 as a strategy against liver cancer

### **Ms Junjing ZHANG, Faculty of Dentistry**

Project title: 3D-printed orthodontic appliance with nanodiamond patterned optical strain sensor for monitoring real-time orthodontic data

### **Mr Yichi ZHANG, Department of Pharmacology and Pharmacy**

Project title: Wireless LED-activated drug delivery system for suppression of postsurgical recurrence and metastasis of cancer