

## INTERDISCIPLINARY KNOWLEDGE EXCHANGE (KE) PROJECT FUND 2019-2021

Faculties	Co-Project Coordinators	Project Title	Summary Description
Architecture Arts	Mr Thomas How Kheng TSANG Department of Architecture  Professor Giorgio BIANCOROSSO School of Humanities (Music)	Soundtecture: Density as Intensity	This project brings together the Department of Architecture and Department of Music at HKU along with three leading KE partners in an exploration of the relationship between sound and architecture. The project combines musical and architectural expertise to deepen the understanding of the effects of Hong Kong's extreme built environment on its sound ecology, create knowledge that will impact the conception and use of performing arts venues, and inspire the creation of new public artworks informed by the mutual implication of sound and architecture. Outcomes will include workshops, publications, new compositions, performances, and site-specific installations and public artworks.
Arts Law	Dr Janny Hiu Chi LEUNG School of English  Dr Anya ADAIR School of English  Dr Daniel MATTHEWS Department of Law	Growing Legal Empathy: A Law and Literature Education Programme for Hong Kong Teenagers	This project targets secondary school students in Hong Kong from a range of socio-economic demographics. It aims to enable these teenagers to achieve new ways of understanding, articulating, and critiquing the legal structures and social issues of contemporary Hong Kong. The aim will be achieved by providing local education workshops, undertaking global outreach to design and promote new lesson structures, and constructing a publicly-available online database of teaching resources. The project will apply the tools and methods of new directions in law and literature developed by current interdisciplinary research at HKU, in a youth-education context.
Dentistry Social Sciences	Professor Chun Hung CHU Faculty of Dentistry  Dr Celia Hoi Yan CHAN Department of Social Work and Social Administration	Providing Oral Health Care and Sleeping Health Care to the People with Mental Disorders	This project aims to empower an NGO (New Life Psychiatric Rehabilitation Association, NLPRA) to deliver oral and sleeping health care to patients with mental disorders in their community centers by providing knowledge about mental disorder-specific oral and sleep health care to the staff of NLPRA, and to deliver educational sessions about sleep hygiene and longitudinal dental health service to the patients at NLPRA community centers, thus ultimately improving the oral and general health of patients with mental disorders.
Education Dentistry	Dr Karen Man Kei CHAN Faculty of Education  Dr Katherine Chiu Man LEUNG Faculty of Dentistry	Keep On Talking and Eating: Establishing a Volunteer Program to Prevent Chewing and Swallowing Problems in Older Adults	Chewing and swallowing problems are common in older adults and have negative impact on their physical and mental health. The Swallowing Research Laboratory of HKU has identified dental problems and oral muscle weaknesses as factors associated with older adults' swallowing problems. The Laboratory and the Faculty of Dentistry of HKU have been implementing evidence-based training programs for older adults to improve their oral hygiene and oral muscle functions. This project aims to pull the two disciplines together to establish a joint program that trains volunteers to provide dental health education and oro-motor exercises to prevent chewing and swallowing problems in at-risk older adults.

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Education Engineering	Dr Cecilia Ka Yuk CHAN Centre for the Enhancement of Teaching and Learning  Professor Edmund Yin Mun LAM Department of Electrical and Electronic Engineering	Enhancing Generic Competencies in Engineering Industries	This project targets the problem that engineering graduates are lacking in generic competencies, such as self-confidence, teamwork and adaptability, which are of importance to the professional field. To enhance generic competencies, employers are targeted for high influential value to engineering graduates. It aims to heighten awareness and enhance some of the generic competencies of engineering graduates. Adopting developed instrument, model and platform from the project team's research and working together with external partner organisations and businesses, this project will develop procedures for recording graduate engineers' performance in generic competencies and provide short online training videos suitable for today's graduates.
Education Engineering Architecture Social Sciences	Dr Peter COBB Faculty of Education  Professor Wenping WANG Department of Computer Science  Dr Zhu XU Department of Architecture  Dr Tom MCDONALD Department of Sociology	Digging the Past Together: International Public Engagement in Near Eastern Archaeological Research	Archaeology investigates our shared human heritage through the survey and excavation of places with past activity and the study of objects. This project aim to introduce the archaeological process and to communicate the results of the project team's research to multiple audiences as part of a fieldwork project in the Near East. Through onsite group visits, local Armenian primary and secondary school students will gain hands-on experience with excavation. Videos, photographs, and 3d models captured in the field will populate a public exhibit in Hong Kong, including virtual reality experiences. A multifaceted and multilingual social media strategy will reach Hong Kong, mainland China, and international audiences.
Engineering	Dr Chok Hang YEUNG Department of Civil Engineering  Professor Edmund Yin Mun LAM Department of Electrical and Electronic Engineering	Innovative Citizen Science Project for Mapping Microplastics in Hong Kong	This project aims to leverage an innovative optical technology to develop a citizen science kit that can assess the abundance and types of microplastics in aquatic systems. Through engaging the public, educators and students in this citizen science project, a database on the distribution and abundance of microplastics in different parts of Hong Kong will be established to inform stakeholders on the extent of microplastics pollution in our environment. A long-term monitoring scheme of microplastics can also be devised.
Engineering Business and Economics Social Sciences	Dr Wei PAN Department of Civil Engineering  Professor Haipeng SHEN Faculty of Business and Economics  Dr Winnie Wai Yi LAW Faculty of Social Sciences	Knowledge Exchange on Modular Integrated Construction (MiC) for Sustainable Development in Hong Kong	This project aims to make strategic and impactful contributions to the future sustainable development of Hong Kong in line with the burgeoning promotion of technology and innovation in Hong Kong, the Greater Bay and the Belt & Road by exchanging the knowledge on disruptive Modular Integrated Construction (MiC) based on the world-leading research at HKU. The aim will be achieved by applying a 'KAP' framework, namely (1) exchanging <u>K</u> nowledge on disruptive MiC for sustainable development with industry and society; (2) shaping <u>A</u> ttitude of stakeholders towards innovation via various social engagements; and (3) guiding <u>P</u> ractice of innovation driven sustainable development.

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Law Education	<p>Professor Simon Ngai Man YOUNG Department of Law</p> <p>Dr Chi Kim CHEUNG Faculty of Education</p>	Rule of Law Education Seminars in Primary and Secondary Schools	This project aims to bring high quality education concerning the rule of law to secondary schools and primary schools. By mutual training of HKU law and education students and pairing them up to teach the rule of law in secondary and primary schools, this project will enhance the knowledge of the rule of law of the new generation of Hong Kong and demonstrate the social responsibility of our HKU students.
Law Engineering	<p>Professor Anne Shann Yue CHEUNG Department of Law</p> <p>Professor Benjamin Chi Ming KAO Department of Computer Science</p>	Artificial Intelligence for Legal Services: Sentencing Wizard on Drug Trafficking	This project aims to pilot the application of artificial intelligence technologies in providing a practical legal research tool for social workers, teachers, legal professionals, and the general public by developing a drug trafficking sentence forecast system.
Medicine Dentistry	<p>Professor Patrick Chiu Yat WOO Department of Microbiology</p> <p>Dr Rory M. WATT Faculty of Dentistry</p>	Antimicrobials and Infection Control: Emergence Of Drug Resistance & Novel Pathogens	This project aims to organise workshops on antimicrobials and infection control so as to introduce the safe and effective use of antimicrobials, to prevent the emergence of resistance, to recognise novel pathogenic microbes and their susceptibilities and to promote the importance of infection control to minimise spread of antimicrobial resistant pathogens. The target audiences include the microbiology laboratory professionals, medical practitioners, medical students, dentists, dental students as well as senior secondary school students interested in the medical/dental professions. Presentations, microbial test demonstrations, a laboratory tour and highly interactive discussions will be given and organized.
Medicine Engineering	<p>Dr Vince Varut VARDHANABHUTI Department of Diagnostic Radiology</p> <p>Dr Ka Wai KWOK Department of Mechanical Engineering</p>	Demystifying AI/Robotics – Making Sense of Emerging Uses of Artificial Intelligence and Robotics in Medical Applications	This project aims to promote public awareness of artificial intelligence (AI). People can find the use of AI already in our everyday lives, but yet the general public is unaware of the rapid pace in which AI is moving to change the way we live. At the cutting edge of AI technology, there are real concerns about what the AI can do from not only the research community but also the public (e.g. fear of AI replacing jobs). In a series of public lectures, the project team will host panel discussions on these important topics with leading experts in academia and industry with interactive questioning from the audience.

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Medicine Social Sciences	Dr Gary Kui Kai LAU Department of Medicine  Dr Vivian Weiqun LOU Sau Po Centre on Ageing	A Mobile Application for Stroke Patients and Their Caregivers in Hong Kong and Shenzhen	This project aims to develop a secondary stroke prevention mobile application for both stroke patients and their caregivers in Hong Kong and Shenzhen, which can be used as a user-friendly tool to detect and monitor vascular risk factors, psychosocial health and caregiver burden. The application would also serve as a convenient tool for stroke patients and caregivers by providing educational materials relating to stroke as well as useful information for informed decision making.
Medicine Social Sciences	Dr Jojo Yan Yan KWOK School of Nursing  Professor Rainbow Tin Hung HO Department of Social Work and Social Administration	Mindfulness Yoga for Parkinson's Disease (MY-PD)	Parkinson's disease (PD) is a common neurodegenerative disease that results in various dysfunctions and disabilities as it progresses. All these conditions affect not only the physical health of patients but also their psychological well-being. Mounting evidence suggests the prominent role of psychological distress in aggravating motor symptoms, thereby leading to increased disability, high healthcare burden and poor health-related quality-of-life (HRQOL). This project aims to develop a mobile-friendly 'Mindfulness Yoga for Parkinson's Disease' (MY-PD) webpage that provides an online 3-day MY-PD course, aiming to enhance psychological well-being and HRQOL of the PD community, and to promote the public awareness of mindfulness yoga for chronic illness management.
Science Law	Dr Caroline DINGLE School of Biological Sciences  Ms Amanda WHITFORT Department of Professional Legal Education	Knowledge Transfer for Informed Prosecution of Wildlife Crimes: Forensic Evidence	This project aims to provide up-to-date information to wildlife crime prosecutors about the use of forensic evidence in presenting cases and sentencing wildlife offences in Hong Kong. An updated dossier of wildlife crime impact reports will be developed. Training workshops will also be organized.
Social Sciences Arts	Dr Yu Te HUANG Department of Social Work and Social Administration  Dr Vivian Kuang SHENG School of Humanities (Fine Arts)	Enhancing Community Empathy for and Wellbeing of Sexual Minority Youth Through Arts	This arts-based, three-phase project aims to promote mental health among and community inclusion towards sexual minorities. Phase one involves a development and delivery of arts-based LGB affirmative therapy to sexual minority youth. In the phase two, exhibitions of artworks created by phase-one participants will be organized both on HKU campus and at a community venue to foster community empathy for and alliances with sexual minority communities. Exhibition viewers will take part in a response art-making activity to express their support for sexual minority communities. Post-exhibit group discussions will be held for the phase one participants to reflect on the response artworks.