Outputs Arising from Dean's Research Fund

Eighth Round

Individual Research Scheme (IRS)	
Project Leader	**Prof So Wing Mui Winnie, SES**
Project Title *(Ref No.)*	Knowledge and behavior change with COVID-19 among Hong Kong primary students: An intervention study with animated videos *(IRS-2)*
Output:	Conference 1. The 3rd International Conference on Science and Technology Education STE 2022 Title: Knowledge and behavior with COVID-19 among Hong Kong primary students
Project Leader	**Dr Tsang Yiu Fai, SES**
Project Title *(Ref No.)*	A Novel Pyrolytic Biorefinery Approach for Production of Bioplastics Using Plastic Waste, Aquaculture Solid Waste, and Algal Biomass *(IRS-4)*
Output:	Journal/ book 1. KIM, S., YANG, W., LEE, H. S., TSANG, Y. F. & LEE, J., Effectiveness of CO_2-mediated pyrolysis for the treatment of biodegradable plastics: A case study of polybutylene adipate terephthalate/polylactic acid mulch film, Journal of Cleaner Production. 372, 133763. *(2022)* 2. JUNG, S., TSANG, Y. F., KWON, D., CHOI, D., CHEN, W-H., KIM, Y-H., MOON, D. H. & KWON, E. E., CO_2-mediated thermal treatment of disposable plastic food containers, Chemical Engineering Journal. 451, Pt. 1, 138603 *(2022)* 3. JUNG, J-M., CHO, S-H., JUNG, S., LIN, K-Y. A., CHEN, W-H., TSANG, Y. F. & KWON, E. E., Disposal of plastic mulching film through CO_2-assisted catalytic pyrolysis as a strategic means for microplastic mitigation, Journal of Hazardous Materials. 430, 128454. *(2022)* External Grant 1. GRF Bioconversion of Biogas from Anaerobic Digestion of Waste Activated Sludge into Biodegradable Plastics with Desirable Characteristics (Date of application: November 2021) Collaboration with other research institutions 1. Identification, Characterisation, and Process Modification for

	Enhancing Removal Efficiency of Microplastics in Sewage Treatment Works with Different Designs in Hong Kong (PI: Environment and Conservation Fund, HK$1,000,000, 04/2021-date). [Collaborators: HKBU and DSD] 2. Removal Mechanisms of Ultraviolet (UV) Filters/Stabilizers in Bioreactors Coupled with Pretreatment Using Advanced Oxidation Processes (PI: Dean's Research Fund, HK$250,000, 06/2022-date). [Collaborator: National Chung Hsing University, Taiwan]
Project Leader	**Dr Li Wai Chin, SES**
Project Title *(Ref No.)*	Arsenic biomineralization by iron oxidizing strain (Ochrobactrum sp.) and its application in contaminated paddy field remediation *(IRS-5)*
Output:	Journal/ book 1. Kaikai Wu, Chuan Wu , Xingxing Jiang, Rui Xue, Weisong Pan, Wai Chin Li*, Xinghua Luo, Shengguo Xue, Remediation of arsenic contaminated paddy field by a new iron oxidizing strain (Ochrobactrum sp.) and iron-modified biochar, Journal of Environmental Science 115:411-421, https://doi.org/10.10 16/j.jes.2021.08.009 *(2022)* 2. Wenhui An, Chuan Wu*, Shengguo Xue, Ziyu Liu, Min Liu, Wai Chin Li*, Effects of biochar/AQDS on As(III)-adsorbed ferrihydrite reduction andarsenic (As) and iron (Fe) transformation: Abiotic and biological conditions, Chemosphere 294: 133126, https://doi.org/10.1016/j.chemosphere.20 21.133126 *(2022)* External Grant 1. GRF The mechanism of arsenic and antimony mineralization and its application in soil remediation at antimony smelting contaminated site (Date of application: November 2021)
Project Leader	**Dr Leung Chi Fai, SES**
Project Title *(Ref No.)*	Photoluminescent Transition-metal Isocyano and Carbene Complexes as Anticancer Agents *(IRS-6)*
Output:	Journal/ book 1. Transformable cis-trans isomerism of Ruthenium (II) complexes with photo-activated anticancer activity *(2022 In preparation)*
Project Leader	**Dr Chan Man Ho, SES**
Project Title *(Ref No.)*	Detecting dark matter signal by radio observations *(IRS-7)*
Output:	Journal/ book

	1. Man Ho CHAN, Chak Man LEE, Constraining dark matter-nucleon scattering cross section by the background electron anti-neutrino flux data, Physics Letters B. 825, p. 136887 (2022) 2. Man Ho CHAN, Chak Man LEE, Constraining annihilating dark matter by the radio continuum spectrum of the Large Magellanic Cloud, The Astrophysical Journal. 933, 2, 130 (2022) External Grant 1. GRF Detecting dark matter signal by radio observations (Date of application: Nov 2021), ***(Date of approval: 30 June 2022, Project Duration: 2 years)***
Project Leader	**Dr Zhang Qiaoping, MIT**
Project Title *(Ref No.)*	Examining Novice and Experienced Mathematics Teachers' Beliefs and Practice during the Pandemic: A Comparative Study between Hong Kong and Italy *(IRS-8)*
Output:	Journal/ book 1. Zhang, Q. P.*, Facing Change in Challenging Times: The Experiences of Hong Kong Mathematics Teachers During the COVID-19 Pandemic/ Book: Educating Teachers Online in Challenging Times: The Case of Hong Kong *(2022 Under Review)* 2. Zhang, Q. P.*, Morselli, F., Robotti, E., "I was worried…I felt energized…I was learning": A Study of Hong Kong and Italian Teachers' Beliefs and Practices During the COVID-19 Pandemic/Journal of Mathematics Teacher Education *(2022 Under Review)* Conference 1. The 44th Conference of the International Group for the Psychology of Mathematics Education Title: Examining mathematics teachers' professional knowledge base during the pandemic crisis: The perspective of SWOC analysis External Grant 1. GRF xploring preservice mathematics teachers' noticing from the lens of value and beliefs: A comparative study among Mainland China, Hong Kong and the United States (Date of application: September 2022) Other impact / output

	-張僑平 (2022)。 新常態下數學教學模式的改變。香港數學教育會議 2021/22，香港。 http://www.hkame.org.hk/new_html/hkmec2021/index.html -張僑平 (2022)。 課程框架、評卷指引、電子工具：專業數學教師需要怎樣的學科知識？。香港數學教育學會研討會 2022，香港。 http://www.hkame.org.hk/event.php?mid=&id=181
Project Leader	**Dr Yang Yang, CCA**
Project Title *(Ref No.)*	Assessing the enactment of school music curriculum: A comparative study of Hong Kong, Mainland China and the United States *(IRS-11)*
Output:	Journal/ book 1. Yang Yang, Assessing alignment between curriculum standards and teachers' instructional practices in China's school music education, Research Studies in Music Education *(2022)* 2. Yang YANG, Graham WELCH, A systematic literature review of Chinese music education studies during 2007 to 2019, International Journal of Music Education *(2022)* 3. Lexuan ZHANG, Bo Wah LEUNG, Yang YANG, From theory to practice: Student-centered pedagogical implementation in primary music demonstration lessons in Guangdong, China, International Journal of Music Education *(2022)* 4. Yang Yang, Challenges in Teachers' Professional Identity Development under the National Teacher Training Program , Music Education Research *(Under Review)* Conference 1. The 13th Asia-Pacific Symposium for Music Education Research Title: Assessing Alignment between Curriculum Standards and Teachers' Instructional Practices in China's School Music Education 2. The 35th World Conference of the International Society for Music Education Title: Finding the position of the school music curriculum in a comprehensive assessment framework for STEAM
Project Leader	**Dr Chu Man Ying Amanda, SSC**
Project Title *(Ref No.)*	Longitudinal Item Response Techniques: Theories and Methods *(IRS-13)*
Output:	Journal/ book 1. Tsang, J. T.Y., So, M. K. P., Chong, A. C. Y., Lam. B. S. Y. & Chu, A. M. Y.*, Higher education during the pandemic: The predictive factors of learning effectiveness in COVID-19 online learning, Education Sciences, 11(8), 446 (*2021)*

	2. So, M. K. P., Tiwari, A. & Chu, A. M. Y.*, Interviewer bias when using multiple mini-interviews in selecting student nurses in a Chinese setting. Submitted to Nurse Education Today. *(2022 Under Review)* External Grant 1. GRF Multivariate randomized response modeling for psychosocial and behavioral surveys with mixed-type sensitive questions (Date of application: October 2021)
Project Leader	**Dr Suen Chun Kit Antony, MIT**
Project Title *(Ref No.)*	Wellposedness on some classes of fluid equations *(IRS-14)*
Output:	Journal/ book 1. Suen, A*, Existence, stability and long time behaviour of weak solution of the three-dimensional compressible Navier-Stokes equations with potential force. *Journal of Differential Equations,* 299, 463-512 *(2021)* 2. Suen, A*, Refined blow-up criteria for the three-dimensional viscous compressible flows with large external potential force and general pressure; *Zeitschrift für Angewandte* Mathematik und Physik, 73 (18) *(2021)* 3. Suen, A*, Some Serrin type blow-up criteria for the three-dimensional viscous *compressible flows with large* external potential force, *Mathematical Methods in the Applied Sciences,* 45 *(4), 2072-2086 (2022)* 4. Suen, A*, Global regularity for the 3D compressible magnetohydrodynamics with general pressure, *Discrete and Continuous Dynamical Systems,* 42 (6), 2927-2943 *(2022)* External Grant 1. GRF Wellposedness and singularity formation of inviscid active scalar equations with even or odd constitutive laws (Date of application: November 2021) ***(Date of approval: July 2022, Project Duration: 36 months)*** Other impact/output 1. Research Output Prize for the Dean's Research Fund by EdUHK, 2021/22 2. President's Awards for Outstanding Performance in Research (Early

	Career Research Excellence Award) by EdUHK 2021/22
Project Leader	**Dr Tan Weiqiang, SSC**
Project Title *(Ref No.)*	Host Country's economic policy uncertainty and bank loan contracting *(IRS-15)*
Output:	Journal/ book 1. Hu, Fang; Tan Weiqiang; Zhang, Jian, Geopolitical Risk Exposure and the Cost of Debt *(Under Review)* 2. Hao SHU, Weiqiang TAN, Does carbon control policy risk affect corporate ESG performance? *(Under Review)* 3. Dai, Yunhao; Kordsachia, Othar; Tan Weiqiang, Host country's economic policy uncertainty and MNE's bank loan contracting *(Under Preparation)* External Grant 1. GRF The Effect of Terrorist Attack on Corporate Innovation Strategy (Date of application: November 2021)

Interdisciplinary Research Scheme (IDS)	
Project Leader	**Dr Au Ka Man, SES**
Project Title *(Ref No.)*	Switching devices based on photochromic metal-organic frameworks *(IDS-1)*
Output:	Journal/ book 1. Xiayu ZHANG, Tao YU*, Ka Man Vonika AU*, Photoresponsive Metal-Organic Frameworks: Tailorable Platforms of Photoswitches for Advanced Functions. ChemNanoMat. 2022, 8, e202100486. *(2022*) Conference 1. Pacifichem 2021 Title: Functional Metal-based Assemblies based on the 2,4,6-Triphenylpyridine Backbone 2. MACRO 2022 Title: Mesoporous Copper(II) Metal-Organic Frameworks for Water Remediation External Grant 1. GRF Design and synthesis of luminescent MOF-gel composites with hierarchical porosity (Date of application: November 2021)
Project Leader	**Prof Chow Cheuk Fai Stephen, SES**
Project Title *(Ref No.)*	Iron-catalyzed Late-Stage Aliphatic C-H Chlorination of drugs and bioactive substrates *(IDS-5)*
Output:	Journal/ book 1. Chang SHEN, Wasihun Menberu DAGNAW, Ching Wai FONG, Kai Chung LAU, Cheuk Fai Stephen CHOW, Selective functionalization of C(sp^3)–H bonds: Catalytic chlorination and bromination by $Iron^{III}$-acacen-halide under ambient condition, Chemical Communications. 58, 76, 10.1039/D2CC02924C (selected as the Front Cover Page) *(2022)* External Grant 1. GRF Bimetallic Latent Catalysts for Oxidative Halogenation (Date of application: November 2021)
Project Leader	**Dr Cheung Ting On Lewis, SSC**
Project Title *(Ref No.)*	Understanding resident perception on urban river revitalization *(IDS-6)*

Output:	Journal/ book 1. Lee, F., Ma, A.T.H. & Cheung, L.T.O. Linking public's perceptions on rivers and preferences on river restoration benefits to willingness to pay: a structural equation modelling approach *(Under Review)*

Dean's Research Prize – Knowledge Transfer Prize (KTP)	
Project Leader	**Dr Tsang Yiu Fai, SES**
Project Title *(Ref No.)*	Environmental Pollution Control and Management: From "Waste" to " Treatment" (*KTP-2)*
Output:	Other output One Rank A journal article (IF: 7.926), acknowledge the support of Dean's Research Fund: HU, X., WANG, J., JIN, T., LI, Z., TSANG, Y. F. & LIU, B., Efficient H_2O_2 generation and bisphenol a degradation in electro-fenton of O-doped porous biochar cathode derived from spirit-based distiller's grains, Process Safety and Environmental Protection. 166, p. 99-107. Prizes 1. 2022 Organizer's Choice Award, The 7th International Invention Innovation Competition in Canada (iCAN) 2. 2022 Gold Medal, The 7th International Invention Innovation Competition in Canada (iCAN) 3. 2022 Special Award, International Federation of Inventors Associations – Focal Point Middle East (IFIA-FPME)

Dean's Research Prize – Impact Case Study Prize (ICSP)	
Project Leader	**Dr Man Yu Bon, SES** **Prof Wong Ming Hung, SES** **Dr Mo Wing Yin, School of Science and Technology, Hong Kong Metropolitan University**
Project Title *(Ref No.)*	Development of high grade pellets using food wastes for safe and quality fish production *(ICSP-3)*
Output:	Journal 1. YANG, X., MAN, Y. B., WONG, M. H., OWEN, R. B. & CHOW, K. L., 15 Jun 2022, Environmental health impacts of microplastics exposure on structural organization levels in the human body. In: Science of the Total Environment. 825, 154025. 2. HUANG, Z-L., YANG, Z-B., XU, X-X., LEI, Y-J., HE, J-S., YANG, S., WONG, M. H., MAN, Y. B. & CHENG, Z., 15 Dec 2022, Health risk assessment of mercury in Nile tilapia (Oreochromis niloticus) fed housefly maggots. In: Science of the Total Environment. 852, p. 158164 3. MAN, Y. B., ZHANG, F., MO, W. Y., CHOW, K. L. & WONG, M. H., 15 Nov 2022, Using food waste to cultivate safe, good-quality Sabah (giant hybrid) grouper: Dioxins and dioxin-like polychlorinated biphenyls. In: Environmental Pollution. 313, 120122. 4. GAO, M., YANG, Z-B., XU, X-X., XIAN, J-R., YANG, Y-X., YANG, S., MAN, Y. B. & CHENG, Z., 19 Jan 2023, (E-pub ahead of print), Using fly larvae to convert food waste for growing Oujiang color common carps: Health risk assessment of polycyclic aromatic hydrocarbons. In: Environmental Science and Pollution Research.