

Outputs Arising from Dean's Research Fund

Tenth Round

Individual Research Scheme (IRS)	
Project Leader	Dr CHENG Jinping, SES
Project Title (<i>Ref No.</i>)	Impacts and mechanisms of wastewater discharge on microbial dynamics and ecological services in receiving waters and its community response (<i>IRS-2</i>)
Output:	<p>Journal/ book</p> <p>1. Utilizing microbial sentinels to assess the impact and safety of sewage outlet relocation and induced environmental gradients in urbanized tidal coasts (<i>2024 Under Preparation</i>)</p> <p>External Grant</p> <p>1. ECS Unraveling the Dynamics of Antibiotic-Resistant Genes and Pathogens in Microplastic Biofilm in Marine Aquaculture Environment: Assemblage, Dissemination, and Associated Environmental and Health Implications (Date of application: November 2023)</p>
Project Leader	Dr CHU Man Ying Amanda, SSPS
Project Title (<i>Ref No.</i>)	Family Caregivers' Stress Burden and Depression: A Three-Level Intervention Approach on Building Family Resilience (<i>IRS-3</i>)
Output:	<p>Journal/ book</p> <p>1. Chu, A. M. Y., Tsang, J. T. Y., Tiwari, A., Yuk, H., & So, M. K. P. (2024). Child-friendly family reduces parenting stress in Chinese families: the mediating role of family resilience. <i>Frontiers in Psychology</i>, 15, 1430005. (2024)</p> <p>Conference 2024 (Japan) Name: Asia-Pacific Conference on Social Sciences & Management Title: Reducing Depression among Family Caregivers through a Three-Level Approach</p> <p>External Grant</p> <p>1. PPR Caregiving Concerns and Perceptions regarding Elderly Care Support and Policy in Hong Kong: A Study Using Internet Search Data</p>

	(Date of application: April 2024)
Project Leader	Dr LI Wai Chin, SES
Project Title (<i>Ref No.</i>)	The mechanism of arsenic and antimony mineralization in soils at antimony smelting contaminated site (<i>IRS-4</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> 1. Microbial response to mining, dressing and smelting activities in antimony-mining area: insights into C, N, S and As cycling (<i>Under Preparation</i>) 2. Pan, W. S., Zou, Q., Hu, M., Li, W. C., Xiong, X. R., Qi, Y. T., & Wu, C. Microbial community composition and cooccurrence patterns driven by co-contamination of arsenic and antimony in antimony-mining area. <i>Journal of Hazardous Materials</i>, 454, 131535. (2023) <p>External Grant</p> <ol style="list-style-type: none"> 1. GRF Aging behaviour of microplastics at the redox interfaces of paddy soils and implications for rice accumulation (Date of application: October 2024)
Project Leader	Dr Lina VYAS, SSPS
Project Title (<i>Ref No.</i>)	Turnover intention of healthcare workers in Hong Kong (<i>IRS-5</i>)
Output:	<p>Conference</p> <p>2025 (Washington DC, USA)</p> <p>Name: 2025 ASPA's Annual Conference</p> <p>Title: Turnover intention of healthcare workers: A case study in Hong Kong</p> <p>External Grant</p> <ol style="list-style-type: none"> 1. GRF Decision of Leave: A Case-control Study of Turnover among Healthcare Professionals in Hong Kong (Date of application: October 2023)
Project Leader	Dr MAN Yu Bon, SES
Project Title (<i>Ref No.</i>)	Study of Biotransformation of Food waste and Selenium by Fly Larvae used for Animal Feed (<i>IRS-6</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> 1. Zheng, C., Man, Y. B., Wong, M. H., & Cheng, Z. Optimizing food waste bioconversion with sodium selenite-enhanced <i>Lucilia sericata</i> maggots: a sustainable approach for chicken feed production and

	<p>heavy metal mitigation. <i>Environmental Geochemistry and Health</i>, 46(12), 1-16. (2024)</p> <p>External Grant</p> <ol style="list-style-type: none"> GRF Activated charcoal/biochar supplemented diet to limit uptake of microplastics and metals in Nile tilapia: Effect on gut microbiota and liver metabolisms (Date of application: November 2024)
Project Leader	Dr YUEN Man Wai, MIT
Project Title (<i>Ref No.</i>)	The Cauchy Problem for Isothermal Euler Equations (<i>IRS-8</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> An, H., Hou, L., & Yuen, M.. The extended Adomian decomposition method and its application to the rotating shallow water system for the numerical pulsrodon solutions. <i>Communications in Theoretical Physics</i>, 76(12), 125004. (2024) On Lifespan Estimates of Classical Solutions of Isothermal Euler Equations in High Dimensions, Pre-print (<i>Under Preparation</i>) <p>External Grant</p> <ol style="list-style-type: none"> GRF Project Title: The Life Span of the Initial Value Problem of Isothermal Euler Equations (Date of application: October 2024)
Project Leader	Dr ZHANG Qiaoping, SES
Project Title (<i>Ref No.</i>)	The relationship between mathematics teachers noticing and their teaching practice: An exploratory study (<i>IRS-9</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> Wei Y. C., & Zhang, Q. P. How can we improve teacher training to enhance teaching skills? a meta-analysis of teacher noticing interventions. <i>Educational Research Review</i> (2024 Under Review) Yun, H., Zhang, Q., Cao, W., & Zhang, X. Teacher noticing within the context of lesson study: a systematic review and prospective trends. <i>International Journal for Lesson & Learning Studies</i>, 13(4), 361-381. (2024 Accepted) <p>Conference</p> <ol style="list-style-type: none"> Year: 2024 (Sydney, Australia) Name: 15th International Congress on Mathematical Education Title: Improving preservice mathematics teachers' noticing skills: An intervention study.

	<p>2. Year: 2024 (New Zealand) Name: The 47th Conference of the International Group for the Psychology of Mathematics Education Engineering and Sustainable Development (CEESD2023) Title: Teachers noticing in the mathematics classroom: Insights from TRU math framework.</p> <p>3. Year: 2023 (Shanghai, China) Name: The Third International Symposium on Mathematics Education Engineering and Sustainable Development (CEESD2023) Title: A new perspective on mathematics classroom observation: A comparative study of novice and experienced teachers' noticing</p> <p>External Grant</p> <p>1. GRF Project Title: Exploring Mathematics Teachers' Professional Noticing of Exemplary Mathematical Lessons: A Comparative Study of Mainland China and Hong Kong (Date of application: October 2024)</p>
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Interdisciplinary Research Scheme (IDS)	
Project Leader	Dr SUN Daner, MIT
Project Title (<i>Ref No.</i>)	Exploring the Development of Students' Computational Thinking through Robotics Supported STEM Education from Kindergarten to Primary schools: A Learning Progression Analysis (<i>IDS-3</i>)
Output:	<p>Journal/ book</p> <p>1. Intelligent Robotics in STEM Education: Pedagogical Innovation, Higher-Order Thinking, and Interdisciplinary Competence. <i>Educational Technology & Society</i>, 28 (4). (<i>2025 Accepted</i>)</p> <p>External Grant</p> <p>1. GRF Project title: Exploring the Developmental Trajectory of Robotics Literacy and Computational Thinking in Aerospace-Focused STEM Education: Interrelationships and Influencing Factors (Date of application: November 2023)</p>

International Collaborative Research Scheme (ICRS)	
Project Leader	Dr DENG Wenjing, SES
Project Title (<i>Ref No.</i>)	Identification and evaluation of phenolic halogenated disinfection by-products in water systems in Hong Kong and Spain (<i>ICRS-1</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> Li, N., Liu, J., Ying, G., Lee, J. C. K., Leung, T. F., Covaci, A., & Deng, W. J.. Endocrine disrupting chemicals in children's and their parents' urine: Is the exposure related to the Chinese and Western lifestyle?. <i>International Journal of Hygiene and Environmental Health</i>, 259, 114383. (2024) Deng, W. J., Yi, Z., & Lee, J. C. K. The Demographic Variation in Nutrition Knowledge and Relationship with Eating Attitudes among Chinese University Students. <i>International Journal of Environmental Research and Public Health</i>, 21(2), 159. (2024) <p>Conference</p> <p>Year: 2023 (Hong Kong)</p> <p>Name: DIOXIN 2023</p> <p>Title: Pollution Characteristics and Ecological Risk of Disinfection Byproducts in Natural Waters in Hong Kong</p> <p>External Grant</p> <ol style="list-style-type: none"> GRF Project title: Revealing the Source and Health Risks of Perfluorinated Compounds Posed on Chinese Children: A Combination of Experimental and Machine Learning Approaches? (Date of application: November 2023)
Project Leader	Dr FOK Lincoln, SES
Project Title (<i>Ref No.</i>)	Factors affecting Visitor's Behavioural Intention towards "Leave No Trace" at Hong Kong Country Parks: A Study during COVID-19 Pandemic (<i>ICRS-2</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> Explaining the Intention to Practice "Leave No Trace" in Hong Kong's Country Parks: The Roles of Environmental Self-identity, Personal Moral Norms and Awareness of Consequences. <i>Waste Management</i>. (2024 Under Review)
Project Leader	Dr TAN Weiqiang, SSPS
Project Title (Ref No.)	Directors' Equity-Based Compensation and Stock Price Crash Risk (<i>ICRS-6</i>)
Output:	Journal/ book

	<p>1. Skin in the game: Does outside directors equity-based compensation induce or mitigate stock price crash risk (<i>2025 Under Review</i>)</p> <p>External Grant</p> <p>2. 2024/25 PROCORE-France/Hong Kong Joint Research Scheme Project title: Cross-boarder Transmission of Climate Risks: The Perspective of Trade Networks (Date of application: June 2024)</p>
Project Leader	Dr TSANG Yiu Fai, SES
Project Title (<i>Ref No.</i>)	Sustainable Valorization of Mixed Plastic Wastes into Syngas and Pyrolytic Oil for Biosynthesis of Polyhydroxyalkanoate (PHA)-based Bioplastics (<i>ICRS-7</i>)
Output:	<p>Journal/ book</p> <ol style="list-style-type: none"> 1. Kwon, D., Kim, J. Y., Song, H., Lee, J., Tsang, Y. F., & Kwon, E. E. CO₂-Mediated Pyrolysis for Syngas Generation from Wood-Plastic Composite Waste. <i>Energy</i>, 134917. (<i>2025 Accepted</i>) 2. Yang, Y., Wu, R. S. S., & Tsang, Y. F. Revealing removal mechanisms of target personal care products in secondary wastewater treatment plants. <i>Journal of Water Process Engineering</i>, 67, 106074. (<i>2024</i>) 3. Kim, J. H., Lee, D. J., Lee, T., Kim, J. Y., Tsang, Y. F., & Kwon, E. E. Reactivity of carbon dioxide during pyrolysis of paper-plastic composite. <i>Cellulose</i>, 31(6), 3447-3463. (<i>2024</i>) 4. Lee, J., Park, C., Fai Tsang, Y., & Andrew Lin, K. Y. Towards Sustainable Production of Polybutylene Adipate Terephthalate: Non-Biological Catalytic Syntheses of Biomass-Derived Constituents. <i>ChemSusChem</i>, 17(23), e202401070. (<i>2024</i>) <p>Conference</p> <p>Year: 2023 (Matsue City, Japan)</p> <p>Name: The 8th International Conference on Environmental Engineering and Sustainable Development (CEESD2023[Excellent Poster Presentation])</p> <p>Title: Rapid detection and quantification of microplastics in wastewater: Implication to future application. Poster presented at The 8th International Conference on Environmental Engineering and Sustainable Development (CEESD2023), Matsue City, Japan. [Excellent Poster Presentation]</p> <p>External Grant</p> <ol style="list-style-type: none"> 1. GRF Project title: A Novel Pyrolytic Conversion Approach for Production of Polyhydroxyalkanoate (PHA)-based Bioplastics with Specific

	Properties Using Mixed Plastic Waste from Different Sources (Date of application: October 2024)
Project Leader	Prof CHOW Cheuk Fai, SES
Project Title (Ref No.)	Toxic Pollutant monitoring and removal by Manganese(II) and Cobalt(II) hexacyanoferrates modified g-C ₃ N ₄ /TiO ₂ (<i>ICRS-10</i>)
Output:	<p>External Grant</p> <p>1. GRF</p> <p>Project title: Catalyst displacement assay: design and synthesis of Prussian blue analogs-modified g-C₃N₄/TiO₂ for selective detection, signal amplification, and degradation of organophosphate pesticides (Date of application: November 2024)</p>