Junior Researcher Mentoring Programme 2023
Brief

Objectives

The objectives of the Programme are:
- to deepen students' understanding of a chosen research topic;
- to nurture students' analytical and research skills;
- to introduce our undergraduate programmes to students and help them make informed university programme choices; and
- to connect them with our staff to have a better understanding of the study life at PolyU.

Eligibility

- S.4 & S.5 and Grade 10 & Grade 11 / Year 11 & Year 12 students;
- Having a strong interest in the relevant discipline;
- Possessing a good command of both written and spoken English; and
- Demonstrating a strong commitment to fulfilling the tasks assigned.

Duration

April to August 2023

Programme Fee

Free of charge

Recognition

Certificate of Participation

Research Projects

Please refer to pages 3 to 5 of this document and Programme webpage
(https://www.polyu.edu.hk/geo/jrmp)

Notes to Schools

- Applicants should be nominated by their Principal.
- Principals are requested to fill in Part 5 of the application form and return the duly signed form for students' online submission **by 26 February 2023**.

Notes to Students

- Each student can apply for **ONE** research project only.
- Only applications supported by Principals will be considered.
- Shortlisted students will be invited to attend a selection interview.

- Selected students are required to participate in all of the activities, including the orientation, meetings with the mentor(s), completion of assigned research work, submission of a reflective journal, presentation, and the closing ceremony cum experience sharing session. No participation certificate will be presented to the student who fails to fulfill any one of the requirements.

Other Details
- Participating students will be covered by a designated group personal accident insurance plan purchased by PolyU.
- EDB's guidelines on adverse weather and outdoor activity arrangements will be strictly adhered to.

Key Dates (Tentative)

Date / Period	Action
26 February 2023	Submission of application form (with Principal's recommendation) and supporting documents to an online system
Early – Mid-March 2023	Selection interview
Late March 2023	Result notification
1 April 2023 (am)	Orientation & first mentor-mentee meeting
April – August 2023	Research Programme
Late August 2023	Closing Ceremony cum Experience Sharing Session

Application Procedures
- To fill in an application form;
- To submit the application form with supporting documents (scanned copies of school examination reports for the last **TWO** terms, award certificates, etc); and
- To upload the signed application form and supporting documents to the online system (https://www.polyu.edu.hk/pfs2/index.php/677991) by **26 February 2023**.

Enquiries
For enquiries, please email us (local.study@polyu.edu.hk) or call us (3400 3149/ 3400 8302)

Junior Researcher Mentoring Programme 2023

List of Research Projects

School/ Department	Code	Research Topic
Department of Logistics and Maritime Studies	JRMP2023_01	Build VR CAVE Scenarios for Teaching Warehousing and Operations Management Subjects
Department of Building Environment and Energy Engineering	JRMP2023_02	The Life-cycle Analysis of Renewable Energy Systems
Department of Building Environment and Energy Engineering	JRMP2023_03	Smart Firefighting with AI and Robots
Department of Building and Real Estate	JRMP2023_04	Assessment of Foot Plantar Pressure and Gait Parameters Following Experimentally Induced Lower Limb Muscle Fatigue
Department of Building and Real Estate	JRMP2023_05	Deep Learning-based Sensing Technology for Construction Safety Monitoring
Department of Civil and Environmental Engineering	JRMP2023_06	Exploring the Analogy between Pipe Networks and Electric Circuits
Department of Civil and Environmental Engineering	JRMP2023_07	Listening to the Vibration of the MTR Rail Track
Department of Civil and Environmental Engineering	JRMP2023_08	An Innovative Hybrid Wind-Wave Breaker for Coastal Protection
Department of Aeronautical and Aviation Engineering	JRMP2023_09	Intelligent Flying Police: Unmanned Aerial Vehicles for Safety Patrol in Urban Scenarios
Department of Biomedical Engineering	JRMP2023_10	Wearable Biosensors for Sports Training
Department of Biomedical Engineering	JRMP2023_11	Evaluation of Spine Using Three-dimensional (3D) Ultrasound
Department of Electrical Engineering	JRMP2023_12	Carbon Emission Source Identification and Monitoring in Hong Kong
Department of Electrical Engineering	JRMP2023_13	Solar Power Distribution System for Direct Current (DC) Grid and Electric Vehicles
Department of Electronic and Information Engineering	JRMP2023_14	Research and Development of an AI-based Object Detection and Tracking System
Department of Industrial and Systems Engineering	JRMP2023_15	Development of a Metaverse Virtual Environment

School/ Department	Code	Research Topic
Department of Industrial and Systems Engineering	JRMP2023_16	Last-mile Delivery (Food Delivery): How Fast can It be?
Department of Mechanical Engineering	JRMP2023_17	Design and Development of a Fuel Cell Powered Toy Car
Department of Mechanical Engineering	JRMP2023_18	Development of a Self-driving Robot for Use in an Indoor Environment
Department of Applied Social Sciences	JRMP2023_19	Our "Jie Jie" Warrior: Finding Strengths of Foreign Domestic Helpers in Hong Kong
Department of Applied Social Sciences	JRMP2023_20	Evaluation of a Positive Youth Development Program for Chinese Adolescents
Department of Applied Social Sciences	JRMP2023_21	The Difference in Olfactory Discrimination, Olfactory Learning Ability, and Interoceptive Ability among People with Different Wine Expertise
Department of Applied Social Sciences	JRMP2023_22	Understanding the Association Between Family Factors and Adolescent Development
Department of Applied Social Sciences	JRMP2023_23	Family Resilience of Hong Kong Low-income Families with Adolescent Children: The Role of Positive Youth Development Attributes
Department of Applied Social Sciences	JRMP2023_24	A Safe Home Environment in the Ageing Society
Department of Health Technology and Informatics	JRMP2023_25	Developing New Therapeutic Strategies to Combat Metabolic Complication of Obesity
Department of Rehabilitation Sciences	JRMP2023_26	Table Tennis Training Programme for People with Dementia
Department of Rehabilitation Sciences	JRMP2023_27	The Effects of Backpack Carriage on Gait Kinematics and Kinetics of Secondary Students
Department of Rehabilitation Sciences	JRMP2023_28	Use of Music to Improve Mental Health of Youths
Department of Rehabilitation Sciences	JRMP2023_29	Cardiovascular Health and E-habit of Primary and Secondary School Students
Department of Rehabilitation Sciences	JRMP2023_30	Promoting Exercise among Older People
School of Nursing	JRMP2023_31	Improving Post-acute Stroke Follow-up Care by Adopting Telecare Consultations in a Nurse-led Clinic During COVID19 and Beyond: A Hybrid Type 2 Implementation-effectiveness Randomized Trial
School of Nursing	JRMP2023_32	A Stand-alone Therapeutic Music-with-Movement Programme for People with Cognitive Impairment

School/ Department	Code	Research Topic
School of Nursing	JRMP2023_33	A Feasibility Study of a Musical Training Program in Improving the Neurocognitive Functioning of Children Surviving Brain Tumours
School of Nursing	JRMP2023_34	Labour-Friendly Communities: Community-based Project to Promote Health, Safety and Dignity of Cleaning Workers
School of Nursing	JRMP2023_35	Sustaining and Extending the Impact of UGC-funded SYA Project
School of Nursing	JRMP2023_36	[AI-driven Vaccine Communicator]: The Impact of a Web-based Psychoeducation Programme with a Motivational AI-based Digital Assistant on COVID-19 Vaccine Hesitancy in Hong Kong's Population
School of Nursing	JRMP2023_37	Exploring Help-seeking Behavior among Women with Intimate Partner Violence in Online Health Communities
School of Nursing	JRMP2023_38	A Randomized, Double-blinded, Sham-controlled Clinical Trial to Evaluate the Effect of Electrical Vestibular Nerve Stimulation (VeNS) on Anxiety - The Modius Stress study
Department of Chinese and Bilingual Studies	JRMP2023_39	Utilization of Immersive Virtual Reality in Communication Training for People with Aphasia
Department of Chinese Culture	JRMP2023_40	Technology, Media, and Modern Everyday Life in China
Department of English and Communication	JRMP2023_41	Mediated Communication in Times of Health Crisis: An Observational Study of the Speech Acts on Discussion Forums in Hong Kong
Department of English and Communication	JRMP2023_42	Advertising Language Learning: An Exploration of How Different Languages are Marketed on Online Language Learning Platforms
Department of Applied Biology and Chemical Technology	JRMP2023_43	Assessing Microbial Contamination in Food Products and Associated Packaging
Department of Applied Physics	JRMP2023_44	Design of IoT Systems
Department of Applied Physics	JRMP2023_45	Application for Teaching Industry 4.0 in Design - DOBOT Magician Robotic Arm
School of Design	JRMP2023_46	A Construction Kit for Soft Robotics
School of Design	JRMP2023_47	In Search of Local Sustainable Material for Promoting Circular Design

School/ Department	Code	Research Topic
School of Design	JRMP2023_48	Research on Hong Kong Countryside Conservation and Revitalisation
School of Fashion and Textiles	JRMP2023_49	Behind the Design of Activewear and Sports Fashion
School of Fashion and Textiles	JRMP2023_50	AI-assisted Personal Training Gear to Monitor and Enhance Exercise Performance
School of Fashion and Textiles	JRMP2023_51	Development of Fabrics for Fashion Applications
School of Hotel and Tourism Management	JRMP2023_52	Business Data Analytics in the Hospitality Industry
School of Hotel and Tourism Management	JRMP2023_53	Systematic Biases in Restaurant Review Processing
School of Hotel and Tourism Management	JRMP2023_54	Elderly Customers' Perceived Values and Impression of Service Robots in Hotels
School of Hotel and Tourism Management	JRMP2023_55	Hong Kong Special Administration Region Adolescents' National Identity: Construction, Performance and Performativity