

Junior Research Mentoring Programme

Code:	JRMP2021_06
School / Department:	Department of Building Services Engineering
Name of Research Leader:	Dr Mui Kwok Wai Horace, Associate Professor
Names of Team Members:	Dr Wong Ling Tim & Miss Tsang Tsz Wun
Research Topic:	Smart Wireless Sensing Module for Indoor Air Quality and Energy Monitoring
Short Description of the Research Project:	<p>With the new developed Indoor Air Quality and Energy monitoring system, an in-depth Indoor Air Quality (IAQ) and energy survey within various premises by means of the remote energy and multi-contaminants sensor was recommended at designated locations of The Hong Kong Polytechnic University (PolyU). The purpose is to make use of these affordable sensors to construct an array to survey a wide range of premises continuously and to analyze the data in real-time. The data acquired can be used further to enhance the indoor air quality control of the property in an intelligent way and its power consumption at the same time. The system could also help to trace intermittent unwanted infiltration of contaminants for emergency control purposes.</p>
No. of Places Offered:	2
Special Requirement(s):	Preferred subject taken: Physics

* The information presented above is subject to change.

Junior Research Mentoring Programme

Code:	JRMP2021_07
School / Department:	Department of Building Services Engineering
Name of Research Leader:	Dr Cao Sunliang, Assistant Professor
Research Topic:	Utilization of the Ocean Energy Resources to Support Coastal Zero-energy Buildings
Short Description of the Research Project:	The objective of this research is to investigate the feasibility to utilize the offshore and onshore renewable energy resources to support the coastal zero-energy buildings. The potential options of the renewable energy resources mainly include the offshore wind turbines, floating PV panels, wave energy converters, tidal stream generators, and sea-source heat pump/chillers. The technical and economic feasibility of the zero-energy system will be investigated in this research. The optimal configurations will be designed which will lead to the best techno-economic and techno-environmental performances.
No. of Places Offered:	1
Special Requirement(s):	Good Physics and Mathematics Skills

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