Junior Researcher Mentoring Programme 2023

Code:	JRMP2023_13
School / Department:	Department of Electrical Engineering
Name of Research Team Member(s):	Prof. Eric Cheng, Professor Dr Steve Bu, Associate Professor
Research Topic:	Solar Power Distribution System for Direct Current (DC) Grid and Electric Vehicles
Short Description of the Research Project:	Solar power is connected in an array, and power distribution and sharing are important research issues. Under power imbalance or shading, the power fluctuation and power distribution from each of the panels may vary, therefore it may impose stress on some panels and also reduces the lifetime. The proposed research is to examine this issue and develop a method to overcome the power imbalance. The work can be examined by the mechanical method or by the electrical method. Solar power is DC and is connected to a DC grid or to be connected to the DC distribution of an electric vehicle. The DC side shall be connected with power monitoring and maximum power point tracking (MPPT) in order to develop the best performance. The final deliverables will be examined for its performance in DC power and its possible power generation to charge the EV battery through a DC connection.
No. of Places Offered:	2
Frequency of Meetings:	Bi-weekly

Special Requirement(s):	The participating students should have some basic knowledge of electronics and electrical engineering. Prior experience in circuit and PCB prototyping will be an advantage.

** The information presented above is subject to change.*