

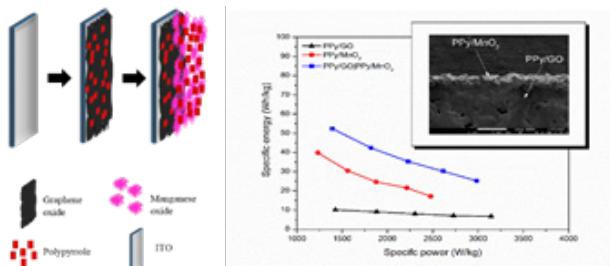
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**High performance supercapacitor based on layerd polypyrrole/graphene oxide on polypyrrole/manganese oxide**

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Supercapacitors possess significant advantages compared to other energy storages due to its fast charging and discharging, long cycle life, low cost and good environmental friendliness. In this work, a layer-by-layer (LBL) of polypyrrole/graphene oxide and polypyrrole/manganese oxide (PPy/GO|PPy/MnO<sub>2</sub>) was prepared via a facile electrochemical deposition. The field emission scanning electron microscopy (FESEM) image clearly showed that PPy/MnO<sub>2</sub> was uniformly deposited on PPy/GO. The PPy/GO|PPy/MnO<sub>2</sub> LBL composite displayed a high specific capacitance of 786.6 Fg<sup>-1</sup> compared to its individual single layers with superior specific energy of 52.3 Wh kg<sup>-1</sup>, specific power of 1392.9 W kg<sup>-1</sup> and good cycling stability over 1000 cycles. The remarkable supercapacitive performance was contributed by the synergistic effect between each material proving an outstanding candidate electrode material for supercapacitor.



**Biography**

Yusran Sulaiman is working at the Department of Chemistry, Universiti Putra Malaysia (UPM). He is also an Associate Researcher at Functional Device Lab in Institute of Advanced Technology, UPM. His current area of research includes preparation of conducting polymers and nanomaterials-based materials for sensing platforms, energy storage and solar cells. He is a very competent and innovative researcher and he has obtained several awards such as IAAM Scientist Medal (2018), Vice Chancellor Fellowship Award 2017 (UPM), Early Career Chemist International Congress of Pacific Basin Societies (Pacifichem 2015), from American Chemical Society and Young Investigator Award 2015, Young Scientist Network Malaysia and Akademi Sains Malaysia.

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