



Department of
Mechanical Engineering
The University of Hong Kong



SEMINAR

Towards Stable and Efficient Organic Solar Cells: Promising Strategies and Challenges

Date: 25 April, 2023 (Tuesday)
Time: 5:00 p.m.
Venue: Room 7-34, Haking Wong Building, HKU

Speaker: Mr. Xian Zhao Liu (MPhil candidate)
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Abstract:

Organic solar cells (OSCs) are promising candidates for flexible, printable, low-cost and environmental-friendly photovoltaic (PV) devices. Vast research efforts in the last decade have prompt the efficiency of OSCs toward the 20% milestone breakthrough, especially OSCs that adopting Y6 and its derivatives as acceptors. However, both high efficiency and stability are required for OSCs to realize commercialization applications. There are tremendous amounts of literatures that concern the efficiency of OSCs correlated to the morphology of the active layer while handful reviewing papers have focus on morphology stability of highly efficient OSCs, particularly in regard to those based on Y-series non-fullerene acceptors (NFAs).

Herein, we present a comprehensive review on the morphology stability of highly efficient OSCs. This literature discusses about various novel stability enhancement strategies for highly efficient OSCs that have been proposed in the past few years and also disentangle the mechanism behind the improvement in regard to blend morphology of the devices. Furthermore, novel aspects for future stability improvement of OSCs are discussed in this literature. The ultimate goal of this literature review is to promote comprehensive stability studies of OSCs and thus building up a profound standard in this domain to boost the device stability toward industrialization.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. P.C.Y. Chow at 3917 7905.