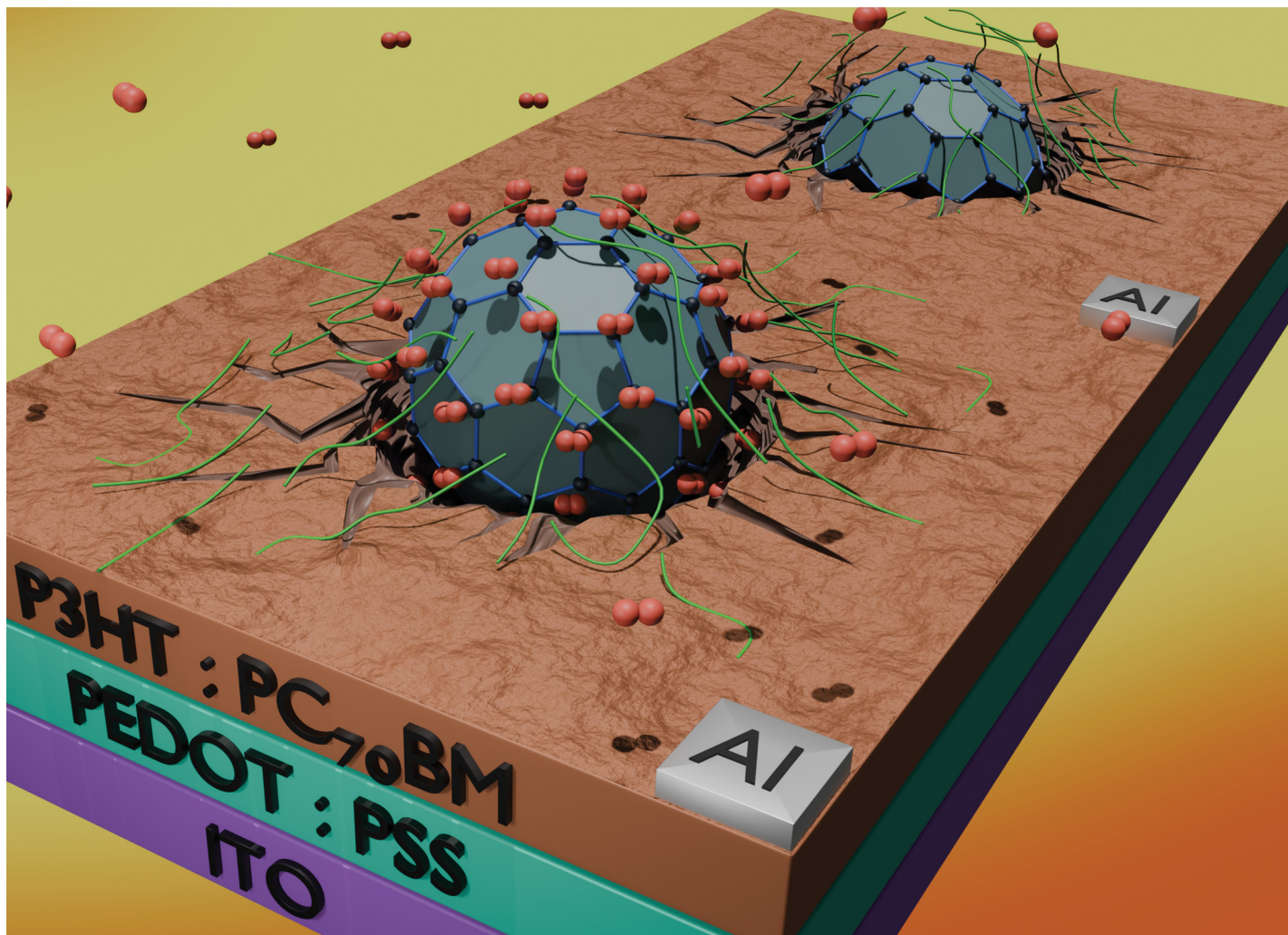




Showcasing research from Dr Inderpreet Singh and Professor P Arun's Lab, Material Science Research Laboratory, Sri Guru Tegh Bahadur Khalsa College, University of Delhi, Delhi, India.

Degradation mechanism of P3HT:PCBM-based bulk heterojunction solar cells

This work is a comparative study of the degradation mechanism in P3HT:PC<sub>60</sub>BM and P3HT:PC<sub>70</sub>BM bulk heterojunction solar cells. The results highlight that the photoconversion efficiency (PCE) of PC<sub>60</sub>BM devices declines rapidly and later saturates to a steady value. On the other hand, degradation rate of PC<sub>70</sub>BM devices varies with time and its PCE reaches a very low value within a few hours. The variation in their degradation mechanism is linked to their diverse molecular structure leading to distinct trap states and phase separation mechanism in the composite film.

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