MONDAY

COLLOQUIUM

Molecular Dopants to Control Organic and Metal Halide Perovskite Films and Interfaces

Antoine Kahn (Princeton University, NJ)

9 Dec 2025 (Tuesday) | 16:00 Hrs (Tea / Coffee 15:45 Hrs) | Venue: TIFRH Auditorium

This talk provides a broad outline of work on the control of organic and metal halide perovskite semiconductor thin film surfaces and interfaces using organic molecular dopants. The importance of interface energy level control to improve charge carrier transport and enable specific device properties is discussed, along with the spectroscopy techniques used to determine the relevant frontier energy levels of these semiconductors. Specific attention is given to energy levels of excitonic materials. Molecular dopants, both reducing and oxidising agents, are introduced, and their doping potential and limits are investigated. Applications of molecular doping of organic and perovskite interfaces, which enhance device performance, are discussed.

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