DEPARTMENT OF PHYSICS

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DEPARTMENT SEMINARNOTICE

SPEAKER:	**Dr. Ravi Parkash Nath Tripathi** **Physics Department** **Panjab University, Chandigarh**
TITLE:	**Molecular Photonics for Engineering Light-matter interactions.**
DATE & DAY:	**11Sept, 2025 (Thursday)**
VENUE:	**Seminar Hall**
TIME:	**4.00 P.M.**

Abstract: Controlling light–matter interactions at the subwavelength scale is key to unlocking new regimes in nanophotonics and optoelectronics. Molecular photonics offers a versatile platform where tailored electronic and structural properties enable efficient field confinement, directional emission, and nonlinear optical responses. In this talk, recent advances and open challenges in engineering optical fields, with particular focus on the quantification of directional emission and third-harmonic generation in molecular systems will be discussed. Examples will include one-dimensional molecular waveguides, van der Waals homo- and heterostructures, and hybrid perovskite thin films, where charge-carrier dynamics critically govern light–matter coupling. These case studies illustrate how molecular architectures can be harnessed to realize tunable, multifunctional, and energy-efficient nanophotonic devices.

All faculty members, research scholars, and students are cordially invited.

Chairperson

Chairperson
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