

Seminar on quantum technology Ion Trap Research at IUAC and Quantum Electronics Development Sugam Kumar, IUAC

This talk presents ongoing research activities at IUAC related to ion traps, fundamental physics, and quantum computing. The first part focuses on electron impact ionization cross-section studies using the 1-8 MeV electron beam from the IUAC FEL facility to investigate high-energy electron-ion interactions. The second part discusses Penning trap experiments aimed at measurement of zero-point energy and the development of trapped-electron quantum computing using planar Penning traps. The talk will also highlight activities at [Qute Electronics](#), a spin-off of IUAC, related to the development of precision ultra-low-noise power supplies, RF generators, HEMT amplifiers, and other precision electronic for quantum computing and precision experiments.



Date: 19th May 2026

Time: 3.30 pm

Venue: C110, D1

About the speaker

Dr. Sugam Kumar is a scientist at IUAC, New Delhi and is an expert in Penning trap design for ion–laser interaction studies. He is presently working on a cryogenic Penning Trap Facility at IUAC for direct measurement of Zero-Point Energy and Penning-trap-based quantum computing. He is also a founder of SAS QUTE Electronics Private Limited which specialises in making ultra-precision DC and RF supplies, GHz bandwidth amplifiers and cryogenic HEMT amplifiers for quantum technology applications.