





Bose Colloquium

S. N. Bose National Centre for Basic Sciences
(An Autonomous Research Institute established under DST, GOI)

 **28th March, 2025**

 **4.00 PM**

 **Silver Jubilee Hall**

 **YouTube Link**

 **Webinar Link**

Title: Light-matter interaction in the non-perturbative regimes

Abstract: After a brief introduction to CSIR-NPL and quantum metrology, I will focus on light-matter interaction in metamaterials with embedded dipole emitters as two level systems. The designed metamaterials have applications in non-classical light sources, single molecule sensing, magneto-plasmonics, modulation of conductivity, among others.

Speaker: Prof Venu Gopal Achanta
Director, CSIR- National Physical Laboratory

Short Biography of the Speaker:

Prof. Venu Gopal Achanta is currently the Director of CSIR-National Physical Laboratory (on lien from Tata Institute of Fundamental Research, Mumbai where he is a Professor). He obtained his Ph.D. (Physics) from TIFR, Mumbai and Ph.D. (Electronics) from Tokyo University. He. His research interests are in the application of nanophotonics to single molecule and single photon spectroscopy through light-matter interaction in non-perturbative regimes. He has over 150 journal publications. He is a Fellow of the Optica – Optical Society of America, and the Indian National Science Academy (INSA) and an honorary fellow of the Metrology Society of India (MSI). He is elected to the International Committee for Weights and Measures (CIPM) in 2022, to the Commission C2 of IUPAP in 2024, and to the executive committee of Asia Pacific Metrology Program (APMP). He is currently President of Optical Society of India (OSI), and Vice president of Indian Laser Association (ILA), and is on the EC of IEEE Photonics Mumbai Chapter. He is a member of the Empowered Board of LIGO, India, and senate member of IIT, Delhi and JNU, New Delhi.

