



Physical Research Laboratory, Ahmedabad

Special Colloquium 17-22

Speaker: Prof. Girish S. Agarwal
Professor, Texas A&M University, USA

Title: "Super Resolution Microscopy"

Time: Friday, 15 December 2017, 16.00 hrs.

Venue: K. R. Ramanathan Auditorium, PRL

Abstract

It is well known that the diffraction of light limits the resolution achievable in microscopy. The diffraction barrier to resolution for example limits the transverse resolution to about $\lambda/2$. In the last two decades techniques have been developed which allow one to achieve resolution of about 10 nm. Some of the newer techniques use quantum optical ideas. A review of the super resolution microscopy i.e. microscopy beyond diffraction limit would be presented. I will also review the newer developments based on the antibunching property of quantum emitters that yield a spatial resolution reaching far into the sub-classical regime.

The Speaker

Prof. Girish S. Agarwal is an alumnus of Banaras Hindu University. He did his Ph.D. from Rochester University, USA. He then returned to India and worked at TIFR before accepting an invitation to establish a School of Physics at the Central University, Hyderabad. He was the Director, PRL during 1995-2005 and has nurtured an internationally respected school of quantum optics in India over the past 30 years. He has been at the Oklahoma State University, USA since 2005, as Noble Foundation Chair and Regents Professor. Prof. Agarwal is internationally acclaimed for his contributions to Quantum Optics, Laser Physics and Statistical Mechanics. He is a recipient of the S. S. Bhatnagar Prize, the Humboldt Research Award, G.D. Birla Award, M. N. Saha Birth Centenary Award and the Albert Einstein Professorship of the Indian National Science Academy. He is a Fellow of the Royal Society, the American Physical Society, the Optical Society of America, the Indian National Science Academy, National Academy of Sciences, the Indian Academy of Sciences, and the Third World Academy of Sciences. He has published more than 500 papers in peer reviewed international journals, including Review Articles and Research Monographs. He has authored a book on "Quantum Optics" published by Cambridge University Press.

Tea at 15:30 hrs.
ALL ARE WELCOME

