



Indian Institute of Technology Kanpur

R. R. DASARI DISTINGUISHED LECTURE SERIES - 2013

“Nanophotonics Studies Based on Modern Optics and Materials Science”

by

Dr. Kazuaki Sakoda

Managing Director, Photonic Materials Unit

National Institute for Materials Science (NIMS), Japan

& Professor, University of Tsukuba, Japan.

Date/Time : **19TH AUGUST AT 12:00 PM**

Venue : **DA 229(ACES)** (Tea will be served at 11:30 AM)

Abstract: The combination of modern optics and materials science can realize a variety of novel optical phenomena that may find innovative applications. The lecture will be focussed in particular on (1) the control of the radiation field by photonic crystals, metamaterials, plasmonic nano-cavities, and their fabrication technologies, (2) nano-scale materials science like quantum dots, quantum rings, isoelectronic traps, and polariton nano-fibers, and (3) their applications (Purcell effect, photonic Dirac cone, tunable laser, micro-pattern laser, thermal IR source, single-photon source, and entangled photon-pair source).

About the Speaker



Professor Kazuaki Sakoda is the Managing Director of the Photonic Materials Unit at the National Institute for Materials Science (NIMS), Japan. He is also a Professor in the Doctoral Program in Materials Science and Engineering at the Graduate School of Pure and Applied Sciences, University of Tsukuba.

Professor Sakoda is an engineer and scientist by training. Prior to joining NIMS as a Senior Researcher in 2002, he was a researcher at the Toray Industries Electronic and Information Materials Research Laboratory and an Associate Professor of the Hokkaido University Research Institute for Electronic Science. He was appointed Director of the NIMS Quantum Dot Center in 2007 and has been Unit Director of the Photonic Materials Unit since 2011. Prof. Sakoda is a very well-known researcher in the area of Photonic crystals and has several seminal publications to his credit.

He holds the credit of writing the first comprehensive textbook on the optical properties of photonic crystals. The book provides both introductory knowledge for graduate and undergraduate students and is also a store-house of important ideas for researchers in this field.

About Dr. R.R.Dasari



Dr. Ramachandra Rao Dasari was born in India in Krishna District of Andhra Pradesh. He had all his education in India receiving B.Sc. in 1954 from Andhra University, M.Sc. in 1956 from Benares Hindu University and Ph.D. in 1960 from Aligarh Muslim University.

He joined the faculty of the Department of Physics at the Indian Institute of Technology Kanpur in 1962 and became a full professor in 1973. Prof. Dasari's major accomplishment at IIT Kanpur included the establishment of one of the largest Laser laboratories for university research in India. He left IIT Kanpur in 1978. After a couple of other stints, he joined MIT in 1980 as a visiting Professor of Physics. In 1981 he was appointed Principal Research Scientist in Spectroscopy Laboratory. In 1984 he was appointed as Assistant Director of the Spectroscopy Laboratory and later promoted as Associate Director in 1992. He oversees project coordination and facility developments of the National Institute of Health supported MIT Laser Biomedical Research Center and also coordinates research programs associated with the National Science Foundation supported Laser Research facility.

* The lecture will be an introductory one for both graduate and undergraduate students.