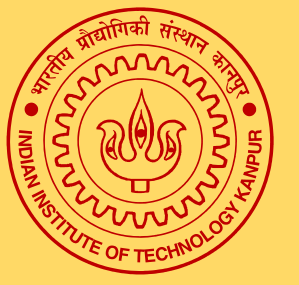




# Center for Lasers & Photonics Indian Institute of Technology Kanpur



## Presents

### Ramachandra Rao Dasari Distinguished Lecture Series 2022

**Date: October 25, 2022, Time: 4:00 PM, Venue: Lecture Hall-15**

#### Advances and Opportunities in Optical Communication Networks and Systems

**Dr. Naresh Chand**

PhD, Life Fellow IEEE  
Associate Vice President  
IEEE Photonics Society, NJ, USA



**Abstract:** Today we are at the beginning of 4th industrial revolution in which Photonics in general and Optical Communication technologies in particular are the key enablers. They offer India unlimited opportunities to contribute and benefit, driving her green- economic growth towards US \$5 Trillion goal by 2024. Photonics is everywhere around us. New photonics technologies, products and applications continue to emerge. All emerging technologies such as IoT, artificial intelligence, virtual reality, machine learning, smart X (X could be states, cities, villages, communities, and/or homes), data centers, vehicular communications, and cloud computing rely heavily on Optical Communication Networks and Systems. This talk will discuss advances and opportunities in this field.

Presently Dr. Naresh Chand represents IEEE Photonics Society in multiple leadership capacities. In 2019, he retired as Director from the US R&D Center of Huawei Technologies in NJ where he was working on developing low-cost advanced technologies for Ultra-Broadband Optical Access Networks since 2011. Prior to this, he worked for BAE Systems (2003-11), Agere Systems and AT&T/Lucent Bell Laboratories (1986-2003), and Dept of Electronics, Government of India (1974-79). His areas of research include optical communication systems, fiber-to-the-home, RF over fiber, non-hermetic 1300-1500 nm InP lasers, reliable high power 980 nm InGaAs/GaAs pump lasers, VCSELs, HBTs, HEMTs, QWIPs, GaAs/Si and AlGaAs/GaAs MBE. He has several firsts and world records to his credit. He has authored > 180 research papers and 15 patents (issued). He did his M.Sc. (Tech) Electronics in 1974 from BITS, Pilani with Gold Medal. From there he joined IIT Kanpur to do his PhD that he left to join Dept. of electronics, Govt. of India, where he was involved with the licensing and development of the Electronic Component industry in India. Later on a British Commonwealth Scholarship, he did his M. Eng. (1980) and Ph.D. (1983) in EE from the University of Sheffield, UK. He also did 2 years post-doctoral research at the University of Illinois, Urbana, IL. Dr. Naresh Chand is a Life Fellow of IEEE and the founder of Prakash Bharati to promote Photonics in India.

### About Prof. Ramachandra Rao Dasari

Prof. Ramachandra Rao Dasari was a Professor of Physics at IIT Kanpur for 16 years (1962-1978). During that period, he built one of the largest laser laboratories for research in India in that time, trained a large number of Ph.D. students in laser research and interacted with several R&D laboratories. His pioneering work later led to the formation of a vibrant Center for Lasers and Photonics (CELP) at IIT Kanpur offering interdisciplinary training and research. As physics panel member of UGC, he had initiated number of new initiatives for the improvements in undergraduate education and organized workshops for training of teachers. Prof. Dasari left IIT Kanpur in 1978 and after spending 2 years in Canada he joined M.I.T. U.S.A., where he served for the next 40 years, becoming Associate Director of the MIT laser biomedical research center. He has published more than 400 research papers and has guided several Ph.D. and M.Tech. students. He passed away peacefully on April 12, 2020. He leaves behind an endowment for an annual R. R. Dasari Distinguished Lecture Series, Since 2005 lectures are being delivered every year by erudite scholars at IIT Kanpur on lasers and photonics.

