Prof. Anurag Kumar
IISc, Bangalore.

TOPIC:
The Internet of Things

ABSTRACT:

The confluence of dense sensing, low power wireless communication, and distributed algorithms for inference and control have heralded the era of Cyber Physical Systems. Such systems are expected to assist almost every domain of human activity whether it is power distribution and generation, transportation systems, agriculture, or personalized health care. With this vision in mind, the Internet, which at present connects humans with computers, and computers with other computers, is expected to evolve to the Internet of Things, which will connect, for example, power generation devices and loads, vehicles on the road, soil monitors in farms, and even health monitoring sensors on the bodies of people. The sensors and actuators at the peripheries of such a network will, typically, and often necessarily, have to be connected with wireless links. In this talk, I will begin by providing a glimpse of this evolution via several example applications. I will then discuss some of the evolving technologies and standards that will help realize this vision.

PROFILE:

Professor Anurag Kumar obtained his B.Tech. degree from the Indian Institute of Technology at Kanpur, and the PhD degree from Cornell University, both in Electrical Engineering. He was then with Bell Laboratories, for over 6 years. He returned to India in 1988, and has since been with the Indian Institute of Science (IISc), Bangalore, on the faculty of the Department of Electrical Communication Engineering. Before taking over as the Director, on 1 August 2014, he was the Chair of the Electrical Sciences Division since 2007. From 1988 to 2003 he was the Coordinator at IISc of the Education and Research Network Project (ERNET), a UNDP and Government of India national program that established India's first wide-area packet switching network.

His area of research is communication networking, specifically, modeling, analysis, control, and optimisation problems arising in communication networks and distributed systems. Recently his research has focused primarily on wireless networking. He has been elected Fellow of the IEEE, the Indian

National Science Academy (INSA), the Indian National Academy of Engineering (INAE), the Indian Academy of Science (IASc), and The World Academy of Sciences (TWAS). He received the IISc Alumni Award for Excellence in Engineering Research for 2008. He has been awarded a DST J.C. Bose National Fellowship for the years 2011-2016.