IEEE Hyderabad Section and COMSOC Distinguished Lecturer on : **"IoT in e-Health : From Wearables to Diagnostic systems"**

Prof. Sudip Misra (IITKGP)

Speaker Bio:
Sudip Misra is a Professor and Abdul Kalam Technology Innovation National Fellow in the Department of Computer Science and Engineering at the Indian Institute of Technology Kharagpur. He received his Ph.D. degree in Computer Science from Carleton University, in Ottawa, Canada. His current research interests include Wireless Sensor Networks and Internet of Things. Professor Misra has published over 350 scholarly research papers and 12 books. He has won nine research paper awards in different conferences. He was awarded the IEEE ComSoc Asia Pacific Outstanding Young Researcher Award at IEEE GLOBECOM 2012, California, USA. He was also the recipient of several academic awards and fellowships such as the Faculty Excellence Award (IIT Kharagpur), Young Scientist Award (National Academy of Sciences, India), Young Systems Scientist Award (Systems Society of India), Young Engineers Award (Institution of Engineers, India), (Canadian) Governor General's Academic Gold Medal at Carleton University, the University Outstanding Graduate Student Award in the Doctoral level at Carleton University and the National Academy of Sciences, India – Swarna Jayanti Puraskar (Golden Jubilee Award), Samsung Innovation Awards-2014 at IIT Kharagpur, IETE-Biman Behari Sen Memorial Award-2014, and the Careers360 Outstanding Faculty Award in Computer Science for the year 2018 from the Honourable Minister for Human Resource Development (MHRD) of India. Thrice consecutively he was the recipient of the IEEE Systems Journal Best Paper Award in 2018, 2019, and 2020. He was awarded the Canadian Government's prestigious NSERC Post Doctoral Fellowship and the Alexander von Humboldt Research Fellowship in Germany. His team received the GYTI Award 2018 in the hands of the President of India for socially relevant innovations.

Dr. Misra has been serving as the Associate Editor of different journals such as the IEEE Transactions on Mobile Computing, IEEE Transactions on Vehicular Technology, IEEE Transactions on Sustainable Computing, IEEE Network, and IEEE Systems Journal. He is the Fellow of the National Academy of Sciences (NASI), India, Indian National Academy of Engineering (INAE), the Institution of Engineering and Technology (IET), UK, British Computer Society (BCS), UK, Royal Society of Public Health (RSPH), UK, and the Institution of Electronics and Telecommunications Engineering (IETE), India. Professor Misra is the distinguished lecturer of the IEEE Communications Society. He has been serving the Executive Committee of IEEE Kharagpur Section since 2008 in different capacities. Presently, he is the Vice Chair of the IEEE Kharagpur Section . He is the Director and Co-Founder of the IoT startup, SensorDrops Networks Private Limited (http://www.sensordropsnetworks.com).

Abstract of the Talk:
The introduction of IoT in healthcare has led to many advancements and added new dimensions to the traditional healthcare systems. The interactions between patients and doctors have moved beyond physical visits with the integration of IoT in the healthcare domain. Digital storage of medical data, remote health monitoring, and historical data analysis are some of the

significant developments that have been accomplished in the area of healthcare. Wearable devices have played a vital role and have proved to be a game-changer in embedding IoT in healthcare. In the present scenario, wearables have witnessed growing popularity and have become a part of people's lifestyles. Wearables have enabled continuous monitoring of physiological parameters, both locally and remotely. Monitoring the elderly, children, and patients with chronic illnesses have especially benefited with the availability of wearables. In addition to this, more complex systems for the diagnosis of diseases provide better insights into the patient's condition, which helps in early detection, faster response time, and targeted treatment. IoT-enabled healthcare connects patients from less accessible rural areas to remote healthcare professionals.

In this lecture, we will discuss the state-of-the-art in the e-Health domain and its evolution with the introduction of wearables and diagnostics systems.