



UC San Diego – LINK-J Joint Seminar

“Proactive and Personalized Health Care using Internet of Medical Things and Big Data Analytics”

When: October 2, 4:30-5:30 pm (Registration starts at 4:15 pm) Where: Nihonbashi Life Science Building 201 Conference Room
Networking reception will follow at the 10th floor Lounge. (5:30-6:30 pm).

The **Connected Health** program at UC San Diego seeks to enable radical changes in the delivery of health care, from today’s reactive care models to a next-generation of proactive, continuous and personalized care using innovations in wireless Internet of Medical Things (IoMT) including novel medical devices and applications, together with innovations in AR/VR, machine vision and artificial intelligence, edge/cloud computing and IoMT communications. The program is a partnership between UC San Diego Center for Wireless Communications and health care providers like Kaiser Permanente and UC San Diego Health, and technology providers like Samsung, Qualcomm and Teradata. The program consists of multiple faculty from Jacobs School of Engineering as well as School of Medicine, including physicians, physical therapists, cognitive neuroscientists and faculty from the departments of Family Medicine, Psychiatry, and Public Health.

Dr. Dey will describe the objectives of the program, including enabling personalized “virtual care” for preventative, routine and post-surgical care, yielding lower care cost models with meaningful behavior change and patient engagement. He will describe multiple projects in the program targeting various conditions like hypertension, diabetes, and mental health resiliency, and promoting healthy aging. Dr. Dey will describe a system which uses IoMTs to continuously collect live data regarding user health, activities, sleep and context, and provides predictive virtual care analytics regarding key health indicators like blood pressure, and personalized recommendations and interventions for the user as well as care givers. Dr. Dey will describe another project which is developing a “virtual physical therapist” to facilitate low-cost, continuous and remote rehabilitation for patients or elder people, utilizing innovations in wireless sensing, computer vision and artificial intelligence, to enable real-time monitoring, guidance and recommendations, while letting care providers track remotely the well-being, progress and compliance of patients. Dr. Dey will also describe emerging projects where cognitive neuro engineering, neuro-gaming, stress neuroendocrinology, epigenetics, digital lifestyle monitoring and artificial intelligence are being used in an integrated manner to assess and improve mental health resiliency and cognitive abilities throughout the lifespan, including during the challenging transition from healthy aging to dementia.

Speaker: Dr. Sujit Dey, Professor, Electrical and Computer Engineering; Director, Institute for the Global Entrepreneur; Director, Center for Wireless Communication

Moderator: Miwako Waga, Director of International Outreach, Office of Research Affairs