UCLA Engineering
HENRY SAMUELI SCHOOL OF ENGINEERING AND APPLIED SCIENCE

BIOENGINEERING

PRESENTS

MRI Imaging of Brain Dynamics, Melanin, and Iron

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1:00 – 2:00 PM
2101 ENGINEERING V

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ABSTRACT:

In the past 25 years, magnetic resonance imaging (MRI) has evolved into a powerful and ubiquitously utilized approach for probing the brain. In addition to providing exquisite details of brain anatomy, MRI is now used to map the function, connectivity, and other important measures, such as melanin and iron contents, of the brain. In this talk, I will briefly review various aspects of MRI based neuroimaging and highlight our recent work in them. The first highlight will be on the characterization of brain dynamics with functional brain MRI, which allows to probe into the brain in added dimensions. The second will be on the use of MRI to map brain melanin and iron, which are showing promises in leading to early biomarkers of Parkinson's disease.

BIOGRAPHY:

Dr. Xiaoping P. Hu obtained his Ph.D. in medical physics from the University of Chicago in 1988. From 1990-2002, he was on the faculty of the University of Minnesota, where he became a full professor in 1998. From 2002-2016, he was Professor and Georgia Research Alliance Eminent Scholar in Imaging in the Wallace H. Coulter joint department of biomedical engineering at Georgia Tech and Emory University. In July 2016, Dr. Hu moved to UC Riverside to become professor and chair of bioengineering and director of center advanced neuroimaging. Dr. Hu has worked on the development and biomedical application of magnetic resonance imaging for 4 decades. Dr. Hu has authored or co-authored 275 peer-reviewed journal articles. His papers have been cited 20,000+ times (h-index: 77). As one of the early players, Dr. Hu has conducted extensive and pioneering work in functional MRI (fMRI). One of his recent interest is the development of MRI biomarkers for the diagnosis and early detection of Parkinson's disease. Dr. Hu was a deputy editor of Magnetic Resonance in Medicine from 2005 to 2013 and an Associate Editor of IEEE Transactions on Medical Imaging from 1994 to 2004. He is currently an editor of Brain Connectivity since its inception, an associate editor of Magnetic Resonance in Medicine, and an editorial board member of IEEE Transactions on Biomedical Engineering. He is a fellow of the International Society for Magnetic Resonance, a fellow of IEEE and a fellow of American Institute of Medical and Biological Engineering in 2009.