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Date Friday, September 26, 2025
Time 12:00 to 1:00 PM
Location SEC 203

Title: *Ethical Challenges in Biomedical Engineering Research and Practice*

Abstract: Biomedical engineering has transformed modern medicine to the point that we can transplant or even replace human organs with devices or lab grown tissue, perform surgery from a distance, and even provide devices that help those without limbs perform in the Olympics. We're now on the verge of more incredible, perhaps even fearful possibilities, inviting new challenges to our moral values and perhaps existential view of what it means to be human. Should we do certain things just because we can? How far should we go with human enhancement? CRISPER can change our genetic make-up. Should we grow organs in animals for harvesting? How about transplanting human tissue into animals for research? What if that involves brain tissue that alters the conscious experience of research animals? What about growing neurons that could achieve a level of sentience? Should we find technology to extend human life? If we do, should only those who can pay for it get it? While past issues concerning conflict of interest, allocation of scarce resources for standard care, clinical and animal research, and research misconduct remain as concerns, these are enhanced by our new possibilities. I will discuss many of these topics with examples from real world situations.

Bio: Subrata Saha has done research in Biomedical Engineering, Biomaterials and Ethical Issues in Engineering and Medicine for over 50 years. He is an Affiliate Professor in the Department of Restorative Dentistry and the Department of Oral and Maxillofacial Surgery at the University of Washington. He is the founder of the Southern Biomedical Engineering Conference and International Conference on Ethical Issues in Biology, Engineering, and Medicine. He is a Fellow of the BMES, IFMBE, ASME, ACD, AIMBE and Sigma XI. He has published 127 papers in journals and 347 papers in conference proceedings covering a wide range of topics including Biomaterials, Bone, Biomedical Devices and Ethical Issues in Engineering and Medicine. Received many awards from professional societies including The Evan Ferguson Award for Service to the Society, the IFMBE Honorary Life Member, the Orthopedic Implant Award, Dr. C. P. Sharma Award, Researcher of the Year Award, C. William Hall Research Award in Biomedical Engineering, Distinguished Alumnus Award, Award for Faculty Excellence, and Research Career Development Award.