

DISTINGUISHED SPEAKER SERIES

Swarms of Small, Flying Robots

My group works on creating autonomous ground and aerial robots, designing bio-inspired algorithms for collective behaviors, and on robot swarms. The last decade has seen rapid advances in computation, sensing, and communication that has created new opportunities for flying robots. I will examine some of the relevant technological drivers and scientific advances and explore challenges of realizing autonomous swarms of flying robots in environments with obstacles in the absence of GPS with opportunities for first response, and mining and construction.

THURSDAY, April 1, 2021

ZOOM

11:00 AM - 11:50 AM



Vijay Kumar is the Nemirovsky Family Dean of Penn Engineering with appointments in the Departments of Mechanical Engineering and Applied Mechanics, Computer and Information Science, and Electrical and Systems Engineering at the University of Pennsylvania. He received his Bachelor of Technology degree from the Indian Institute of Technology, Kanpur and his Ph.D. from The Ohio State University in 1987. He has been on the Faculty in the Department of Mechanical Engineering at the University of Pennsylvania since 1987. In addition to holding many administrative positions at Penn, Kumar has served as the assistant director of robotics and cyber physical systems at the White House Office of Science and Technology Policy (2012 – 2013). His lab has spun off many startups in robotics, and he is the founder of Exyn Technologies. He is a Fellow of the American Society of Mechanical Engineers (ASME) and the Institute of Electrical and Electronic Engineers (IEEE).

Vijay Kumar
University of Pennsylvania