

Swarm Autonomy and a New Era of Space Exploration

Amir Rahmani

NASA Jet Propulsion Laboratory

Monday, October 29, 2018

2:00 – 3:00 PM

EEB 132

Abstract: Teams and swarms of autonomous robots and spacecraft hold the promise to change the way some missions are designed and provide new mission opportunities. Monolithic systems can be traded for a swarm of interconnected and coordinating assets. Swarm robotics has reached a level of maturity that can be reliably fielded. NASA's Jet Propulsion Laboratory has long enjoyed leadership in spacecraft formation flying and swarm robotics. This talk will present an overview of JPL's multi-agent autonomy tasks and technologies, including our multi-mission multi-agent autonomy architecture, as well as a number of multi-robot motion-planning tools developed at JPL.



Biography: Dr. Amir Rahmani has a Ph.D. from University of Washington in aeronautics and astronautics and was an assistant professor of aerospace engineering at the University of Miami prior to joining JPL. He has over a decade research experience in distributed space systems, formation flying, as well as swarm robotics. He is the NASA Small Business Technology Transfer (STTR) subtopic manager for coordination and control of swarm of space vehicles.