

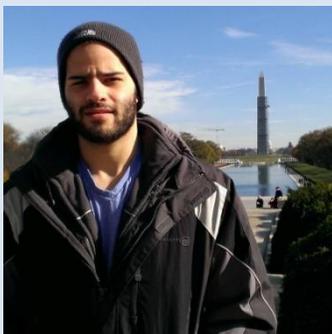


TOPIC	Formation Control of Kobuki's
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Formation Control/ROS
SPEAKER	Nicolas Gallardo, Masters Student at ECE Dept., University of Texas at San Antonio
DATE	Friday 8th July 2016
TIME	3:00 – 4:00 PM (EDT)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

Formation control of a collection of vehicles is a topic that has generated a lot of interest in the research community. This interest primarily stems from the increased performance and robustness that is provided by a swarm of agents as compared to an individual member. Formation control can be achieved through many approaches. The approach discussed is based on a leader-follower premise. A network of agents can be controlled by assigning a leader for each agent in the formation. The group as a whole will be capable of following either a Virtual Leader (VL) or an agent within the group. The algorithm was applied to a test-bed consisting of three Kobuki robots. The test space is monitored by a Parrot Bebop drone hovering overhead that identifies agents uniquely through image processing techniques. The agents can then move in the test space, based on the leader's position, while maintaining a formation. In this talk, the inner workings of the system along with results and drawbacks will be discussed.

ABOUT THE SPEAKER



Nico is currently working towards his Masters in Electrical Engineering with a focus in Controls at the University of Texas at San Antonio. He completed his B.S. in EE at the Rochester Institute of Technology in December of 2014 with a focus in Robotics. He joined Autonomous Control Engineering (ACE) Lab along with TECHLAV Center after his first semester at UTSA. He enjoys areas of research pertaining to formation control, cloud computing, and assistive robotics. E-mail: hbq744@my.utsa.edu