



**AUTONOMOUS
CONTROL &
INFO TECH**



TECHLAV

TOPIC	Fault Diagnosis
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Control, Safety, and Diagnosis
SPEAKER	Alejandro White
DATE	Friday October 28, 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

Highly complex autonomous systems are increasingly becoming dependent upon in daily societal activities and operations. This leads to an increase in liability. The challenge is that even with the best practices for developing and using high quality components, faults may unexpectedly occur in a system with costly, or in some cases, even deadly consequences. Therefore, today's systems must comply with stringent requirements for system safety and reliability. As systems become more complex, diagnosing (detecting, identifying, and locating) system faults becomes more complicated. Systematic robust fault diagnosis techniques are essential for a timely and accurate diagnosis of system faults. Therefore, in this talk, we will propose a novel diagnostics tool for a Discrete Event System (DES) under uncertain activation conditions. Our proposed diagnosis tool, the diagnoser (as it is called), detects, identifies, and locates system faults in relation to a set of states of which the system under diagnosis could possibly be located upon the diagnoser's instance of activation. The proposed diagnoser is designed to diagnose system faults that occur prior to and/or after the diagnoser's activation; thus, removing the procedural constraint of initializing the system and diagnoser synchronously. Illustrative examples are provided to detail the proposed diagnosis procedure.

ABOUT THE SPEAKER



Alejandro White received his B.S. in Electrical Engineering from NC A&T State University in 2003. He later received his M.S. in Electrical Engineering from Virginia Polytechnic in 2007.

He is currently pursuing his PhD at Autonomous Cooperative Control of Systems of Systems (ACCESS) Laboratory at NC A&T State University, under the advisory of Dr. Ali Karimodini.