

Space Science Seminar
Monday, 2018 March 12
10:30 a.m.
NSSTC/2096

**Title: Multi-Messenger Searches for the Sources
of High-Energy Astrophysical Neutrinos**

Dr. Marcos Santander / University of Alabama

Host: Dr. Michelle Hui
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In 2013 the IceCube observatory reported the detection of a cosmic flux of neutrinos in the TeV-PeV energy range. While the sources of these neutrinos remains unknown, the sensitivity of their search can be drastically increased using a multi-messenger approach that correlates neutrino emission with other tracers of hadronic interactions such as high-energy gamma rays. The detection of electromagnetic emission in coincidence with an astrophysical neutrino detection would allow us to pinpoint the sources of neutrinos and probe the environments in which particle acceleration occurs. This talk will introduce the IceCube experiment and present an update on the measurement of the astrophysical neutrino flux, outline results from the search for electromagnetic counterparts to neutrino events, and discuss the implications of these observations for potential neutrino sources.

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