

“Applying Correlation Radiometry to the Detection and Classification of Human Presence”



By

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1st Ever Meeting of the Joint Antennas and Propagation Society and Microwave Theory and Techniques Society (APS/MTTS) Chapter of the Central Texas Section of the IEEE!!!

All are invited to help us get started with our first Chapter meeting.
After the presentation Society members are encouraged to stick around so we can discuss
new officers, and the future of our new Chapter.

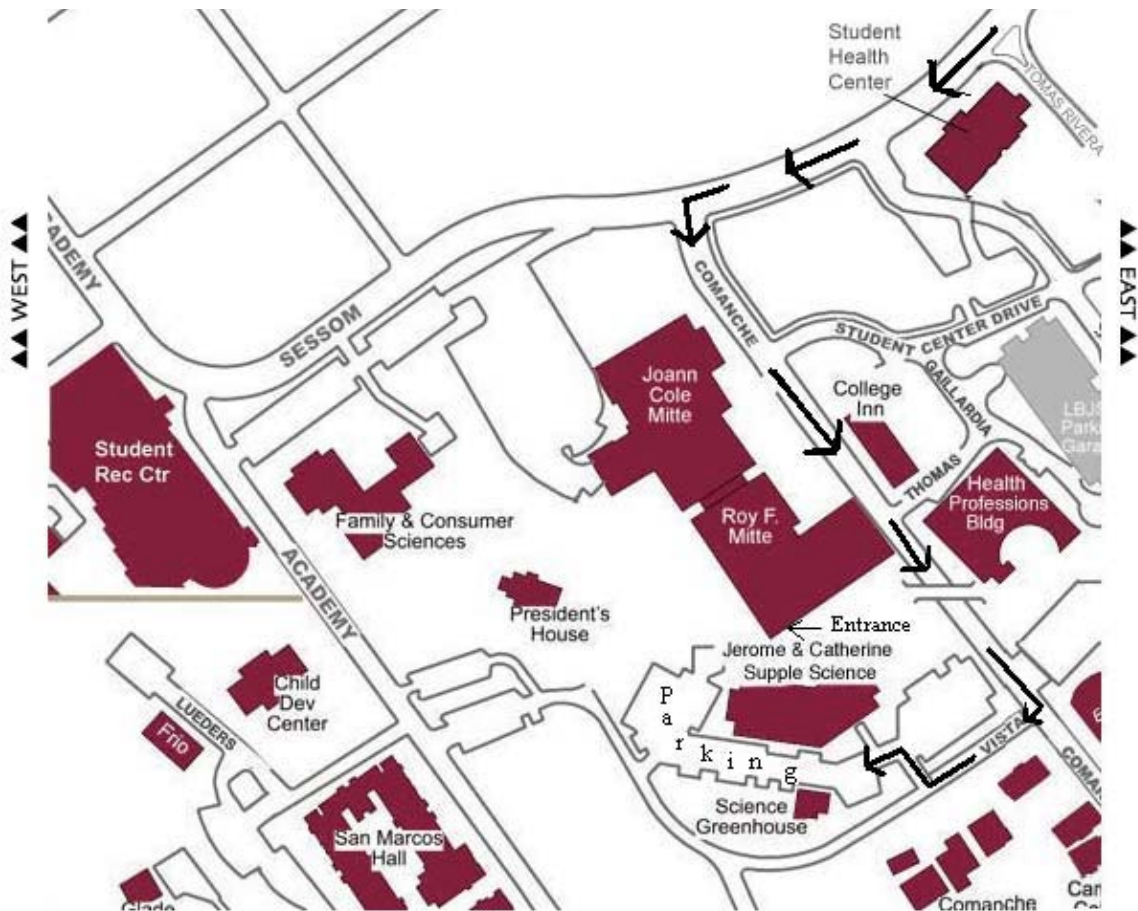
Thursday, July 16, 2009 @ 7pm
Texas State University, San Marcos TX
Roy F. Mitte Building, Room RFM 5246 (5th Floor)
(Directions on following page)

Food will be Served.

Please RSVP attendance to jeremypruitt@ieee.org

Abstract:

Correlation radiometers have long been used in remote sensing to synthesize large apertures using numerous small apertures. Inherent in the aperture synthesis process is that correlation radiometers respond to coherent radiation, filtering out radiation that is uncorrelated between the antennas. In this presentation, I will present some of our research into human presence detection which makes use of the coherent detection capabilities of the correlation radiometer. I will discuss a Ka-band radiometer system that we developed to detect stationary humans from a moving platform for applications such as site security and search and rescue, and will give some experimental results. We use both total power and correlation radiometers in conjunction to help remove responses from non-human objects in highly cluttered environments. I will also discuss other potential applications of the millimeter-wave correlation radiometer, including through-wall detection and activity classification.



Directions:

Take the Aquarena Springs Drive exit (Exit 206)
 Follow the access road to the intersection and take a right onto Aquarena Springs Drive
 (From the south, you will need to take a left onto Aquarena Springs Drive and go under IH-35)
 Aquarena Springs Drive becomes University Drive as you get closer to campus
 At second light after passing the football stadium, turn right onto Sessoms Drive
 (shortly after turning you will pass a Salt Grass Steakhouse on your right)
 Follow Sessoms Drive through 2 lights
 At the third light, you need to take a left onto Comanche Street
 Go under an overhead bridge and then turn right on to Vista Drive
 Follow the arrows marked in the map above for parking
 Once parked, head toward the Roy F. Mitte Building
 You will enter on the second floor of our building
 Once you've entered the building head right to locate the elevators and come up to the 5th floor