



**AUTONOMOUS  
CONTROL &  
INFO TECH**

**TECHLAV**

<b>TOPIC</b>	<b>Bioinspired Magneto Reception</b>
<b>ORGANIZERS</b>	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
<b>AREA</b>	<b>Bioinspired Magnetic Reception and Multimodal Sensing</b>
<b>SPEAKER</b>	<b>Dr. Brian K. Taylor</b>
<b>DATE</b>	Friday April 22, 2016
<b>TIME</b>	3-4PM (EST)
<b>VENUE</b>	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
<b>FEES</b>	No Charge

## SYNOPSIS

Several animals use the Earth's magnetic field in concert with other sensor modes to accomplish navigational tasks ranging from local homing to continental migration. However, despite years of research, animal magnetic reception remains poorly understood. Similarly, the Earth's magnetic field offers a signal that engineered systems can leverage to navigate in environments where man-made positioning systems such as GPS are either unavailable or unreliable. This talk will discuss bioinspired magneto reception research that utilizes neutrally-based methods for sensing and processing the Earth's magnetic field. In addition, it will discuss an animal-inspired strategy for using magnetic field information to move from a starting point to a goal location. Both of these approaches are being investigated using simulations. Hardware experiments are being developed to verify, validate, and advance the insights generated from the simulation work. These research paths have the potential to aid biological understanding while simultaneously generating insights that will enable the development of more robust and adaptive engineered navigation systems.

## ABOUT THE SPEAKER



Dr. Brian Taylor is a research mechanical engineer at the Air Force Research Laboratory. His primary research interest is bioinspired engineering and its applications to robotics, navigation, estimation, and control.