

Synthetic Aperture Radar – Systems and Signal Processing

Evan C. Zaugg

When: 6/23/2009 6:00-8:00pm

Location: CU-Boulder, Discovery Learning Center, 1st Floor

Note: 6:00 - 6:30 is reserved for appetizers and networking

Abstract:

Synthetic Aperture Radar (SAR) is used for high resolution radar imaging. It can be thought of as a “radar camera” that forms images of the plant's surface by taking a series of radar returns as the spacecraft or aircraft carrying the radar fly overhead. The radar signals are processed together using knowledge of the flight path to form high resolution images similar in appearance to optical photographs. Each advance in technology, throughout the history of SAR, has prompted improvements in performance and capabilities. SAR processing was originally done optically, but the introduction of digital signal processing provided a huge leap forward. This presentation includes a brief history of SAR, SAR systems, and SAR signal processing with a focus on the cutting edge of modern SAR technology. Many recent advances are illustrated by examples of the research conducted at Brigham Young University and ARTEMIS, Inc. including system miniaturization and advances in signal processing.

Biography:

Evan C. Zaugg graduated with his bachelor's degree in Electrical Engineering from Brigham Young University in 2005. He has worked in the Microwave Remote Sensing Laboratory at BYU since 2004. His research includes synthetic aperture radar system design, hardware, and signal processing. In 2008 he began working for ARTEMIS, Inc. continuing the collaborative projects with BYU. He is currently finishing his Ph.D. in Electrical Engineering at BYU.

Directions:

The Discovery Learning Center is located on the South-West corner of Colorado Ave and Regent Dr in Boulder. [MAP](#)