School of Engineering & Computer Science Seminar

"Information Dashboards, Visual Analytics, and Simulation"

Computing & Information Technology from the Perspective of an Applied Technology Center

by

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Rogers Building, Room 106
4:00 pm

This seminar examines the application of computing and information technology within the Texas Center for Applied Technology (TCAT), a component of the Texas Engineering Experiment Station located at Texas A&M University in College Station. Key issues covered are the importance of maintaining a continuum of research extending across basic and applied research, test and evaluation, and training. A properly maintained continuum of research is characterized by basic researchers enabling applied technology centers to maintain a competitive edge through innovation. Conversely, the applied technology centers often uncover needed extensions to technology or new classes of problems that need to be fed back to the basic researchers.

The primary funding sources of funding in TCAT are from the Departments of Defense, Homeland Security, and Agriculture. Several program areas where significant success has been achieved will be covered during the seminar. These areas include an information dashboard framework (IDF) built on a service oriented architecture (SOA), process-oriented data visualization tools using novel applications of visual analytics, and simulation in support of incident command training and non-kinetic warfare. Specific programs presented will include:

AgConnect - A suite of information tools built on the information dashboard framework that support incident management, biosurveillance, veterinary diagnostic laboratory operations, and business continuity.

ProDV - A data flow programming environment built originally to support large data sets being produced by instrumented vehicles with systems being tested by the U.S. Army. The emphasis of this tool is on visual analytics (interactive data visualizations) offering multiple synchronized perspectives of the data, including geospatial.

Emergency Management Exercise System – A simulation environment used to train more than 7500 emergency managers from around the country in incident management, It is an example of how decision support systems can be built to support both operations and training.

Finally, an open discussion about any of the specifics of sustaining an applied technology, details of any of the technologies presented, and opportunities for collaboration will close the seminar.