University of Colorado at Boulder

AEROSPACE ENGINEERING SCIENCES

Seminar

A Systems Approach to New Opportunities in Earth Observation for the U.S. and Developing Countries

For decades, satellites and planes have served as useful platforms from which to remotely measure phenomena on the land, in the sea and in the atmosphere. These measurements provide valuable information that informs decision makers in areas such as weather forecasting, mapping, disaster response, water resource management and land use planning. **Currently, several factors are converging to enable new capabilities in satellite and aerial earth observation services, but the effectiveness of these capabilities requires a systems approach to design, execution and evaluation**. The first factor is that smaller, more affordable satellites and unmanned aerial vehicles are increasingly capable platforms for earth observation. Second, sensor technology for some measurements is available in more compact, manufacturable packages. Third, tools for data management, data analysis and information delivery are evolving rapidly. Meanwhile, on the policy and economic front, governments debate the most efficient funding approach to maintain both operational and scientific earth observation capabilities. Governments in many developing countries that previously depended on satellite data provided by other countries now seek to develop domestic capability to build and operate satellite earth observation systems. In the private sector both new and established

This presentation discusses a systems approach to earth observation that offers two areas of improvement over traditional approaches. First, traditional earth observation systems were built over