

The Latest on Russ College Research

Ohio Coal Research Center

The Ohio Coal Research Center has continued to develop carbon recycling technologies through the use of photosynthetic microorganisms. Working with the Biofuels Research Laboratory, a fellow unit in the Russ College's Institute for Sustainable Energy and the Environment, researchers are transforming micro-algae into a biomass feedstock for biodiesel. The result may significantly influence the supply of biodiesel fuel as a replacement for petroleum diesel. Several industrial partners are interested in extending the technology to address other feedstock concerns, such as the production of bio-polymers as a sustainable material in the plastics industry.



Ben Stuart, director of the Institute for Sustainable Energy and the Environment, reads his BIOD 4 ME-tagged Ford Excursion, which can be fueled with biodiesel, for the Homecoming parade.

Center for Intelligent, Distributed, and Dependable Systems

On behalf of Ohio University, the Center for Intelligent, Distributed, and Dependable Systems is collaborating with 11 other colleges and universities—and

industry leaders—on a multi-million-dollar, state-funded project to recruit students in science, technology, engineering, mathematics, and medical (STEM) fields.

Editor's note: For the full story, see page 14.



Graduate assistants Ryan Young and John Dowler discuss CASSI's cost-estimation project for General Electric.

Center for Advanced Software Systems Integration

An eight-year, \$2 million cost-estimation General Electric Aviation project has been extended to include work for GE Energy. In addition to helping GE determine which jet engine designs are most cost effective, Russ College faculty members and graduate students from electrical, industrial and systems, and mechanical engineering are now applying the cost-estimation methods to GE's gas turbines. Researchers examine part drawings, identify dimensions and other attributes that describe the part's geometry and features, and then develop models to estimate the time and materials required for manufacturing.

Avionics Engineering Center

The Avionics Engineering Center is helping the Federal Aviation Administration produce a new distance measuring equipment (DME) specification. Approximately 1,000 DME stations across the U.S. support a complex, on-demand navigation system that helps pilots fly airplanes to specific destinations. The new specification will enable more friendly and efficient use of airspace.

Ohio Research Institute for Transportation and the Environment (ORITE)

The Ohio Department of Transportation has asked ORITE to assess approaches to clean up pollutants from highway runoff. One approach is the exfiltration trench, where water is strained through a layer of coarse, pervious concrete—then through one or more layers of fine filter material before running into a storm sewer or other drainage system. The other approach is a vegetated biofilter, which consists of a grassy slope leading to a grass-lined ditch. The vegetation retards the flow of water, traps suspended solids, and absorbs the metals. 