

# Engineering Student Technology Committee

<http://www.engr.colostate.edu/ESTC>

**College of Engineering**

**Colorado State University**

The Engineering Student Technology Committee (ESTC) invites proposals from students, faculty, and staff for technology related equipment to enhance the student educational environment in the College of Engineering at CSU. Each year, the ESTC allocates funding for strategic projects that will have a near-term benefit to students. This year, the committee is soliciting proposals in the \$5K - \$10K range. Proposals must be primarily for equipment and have a direct benefit to the educational mission of the college. Please review the Charge for Technology (CFT) manual for permissible use of CFT funds:

<http://ucft.colostate.edu.aspx/www.ucft/pdf/cftmanual.pdf>.

The ESTC is particularly interested in intra-departmental proposals or proposals that benefit a large cross-section of students. Partnerships with the ESTC that fund projects beyond the limitations of the CFT are especially compelling. Note that the committee is not, in general, interested in funding projects that are specific to a particular research group or that affect only a small number of students. To submit a project proposal, please complete this form and send it as an e-mail attachment to [priedo@rams.colostate.edu](mailto:priedo@rams.colostate.edu) by March 29th for full consideration.

## 1. Title of Proposal:

## 2. Proposal Participants:

*Primary Contact for Proposal*

Name: \_Peter Riedo    E-Mail: [\\_Priedo@rams.colostate.edu](mailto:_Priedo@rams.colostate.edu)

Department/Major: MECHANICAL ENGINEERING \_\_\_\_\_

Circle One:            **Student**            **Staff**            **Faculty**

*Additional proposal participants*

Dr. Thomas Bradley    [Thomas.bradley@colostate.edu](mailto:Thomas.bradley@colostate.edu) \_\_\_\_\_

## 3. Proposal Abstract (limit to 100 words):

EcoCAR is an ongoing senior design project wherein CSU Mechanical Engineering and Electrical Engineering students design and build a hybrid electric vehicle under the sponsorship of General Motors and the US Department of Energy. This project has required CSU to build up its teaching and testing capabilities in the field of high power DC systems that can be used to develop hardware, controls and hardware-in-the-loop tests for the vehicle subsystems. We propose to purchase several DC electronic loads that will allow us to perform this type of work as part of our teaching and research missions.

## 4. Proposal Budget

*List of items to be purchased and cost*

**3 ea of Agilent 60504b Load Modules = \$3300 for three**

**TOTAL: \$3300**

*Dollar or percentage amount requested from ESTC: \$3300*

**5. Full description of proposal:**

EcoCAR2 is an international student competition whose goals are to develop our engineering workforce to solve the product development and environmental design challenges that every part of the US technology sector will need to overcome in the coming years. EcoCAR2 does this by challenging undergraduate student teams from 15 schools across North America to design, develop, and test a high-technology, high-efficiency hybrid electric vehicle. Between now and 2014, we will convert Chevrolet's new 2013MY Malibu into a hydrogen-powered plug-in hybrid electric car. Each year, CSU will compete with the most prestigious schools in the nation to showcase our students' creativity and excellence. CSU is honored to have been selected for this prestigious program, but the scope of the challenge is such that our success depends on University-wide support and participation.

The electronic loads would reside at the CSU Motorsports Engineering Research Center where approximately 25 undergraduates per year would have access to them as part of the EcoCAR project.

EcoCAR2 is funded by US DOE and GM at approximately \$450,000 in cash, and \$40,000,000 in-kind, over each three year competition. The ESTC funding would leverage this existing program and would help to ensure the competitiveness of CSU's proposal to secure this funding again for the 2016 competition cycle. In addition, Thomas Bradley has already purchased the mainframe (~\$900) and a single lower-power load module (~\$1100) for this system. The equipment that we have already purchased can accommodate the three additional load modules that are proposed for this work.