**Student Information**
Name: J. Bruce Elliott-Litchfield
Faculty/Unit/Department: Engineering Administration (College of Engineering, Undergraduate Programs Office)
Phone: 333-8980
Project Leader Email: b-litch@illinois.edu
Participants: Marios Georgiou, Matt Alonso
Participant Emails: georgiou@illinois.edu; malonso2@illinois.edu

**Project Information**
Project Name: Solar Powered Cook Stoves on Campus: Next generation solar cooking and grilling innovations
Project Topic: Energy - ?
Project Summary: We propose to implement innovative cook stoves powered by solar energy and sited at campus locations like the Illini Grove, Orchard Downs, and/or the Arboretum. The stoves would utilize innovations to overcome the two key limitations of current solar cooking; namely, they will offer (1) high temperature cooking and grilling and (2) energy storage for cooking at night or other times when the sun is not shining. The stoves will also provide a clean source for cooking/grilling with no fire, using no gas, wood, or charcoal.

This work is connected to the massive "global cook stove problem," specifically that charcoal and wood fires are still routinely used by over 3 billion people worldwide and are responsible for killing nearly 2 million people a year, especially women and children living in low-income settings due to indoor and cooking-related air pollution ([http://www.who.int/mediacentre/factsheets/fs292/en/](http://www.who.int/mediacentre/factsheets/fs292/en/%22%20%5Ct%20%22_blank)). The proposed project will include signage to educate about the global problem, noting how the Illinois stoves are an innovation aimed at solving the larger problem and one means to address the need for safe, clean, and reliable cooking around the globe.

Student Involvement: Students will be involved in all stages of the project, including design, installation, testing, implementation, signage, and performance evaluation and redesign of the stoves.

Student involvement will occur through multiple means including (a) courses like independent study and/or LINC-Learning in Community, (b) registered student organizations like Engineers Without Borders, and (c) volunteer student opportunities.

Student involvement has been a key component of the preliminary foundational work for this proposed project, and students will continue to be significant contributors and learners if this proposal is funded by the SSC.

Students and the broader university community will have free access to the stoves and will be invited to offer feedback on stove performance and design.

If successful, we will consider extensions of the project to include cooking at university dining halls and other venues.
Timeframe: Preliminary design and testing will continue this year, and then if funded by the SSC, final design, construction, installation, and implementation will begin in early 2015.
Budget: Total $14,000: (1) materials, fabrication, and installation of cook stoves at (up to 3) campus locations =$12,000; (2) signage = $2,000