

Fall 2013 Campus Sustainability Fund Proposal

Invited Lecture: Integrative Design in Solar Energy: Pattern with a Purpose

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Cody Monk: cm Monk@s.paulsmiths.edu

Total amount of money requested: \$1974.32

Project Narrative

Dr. Jeffrey Brownson is an Associate Professor of Energy and Mineral Engineering at Penn State University. His background includes geoscience, materials science and environmental chemistry. While his research focuses on photovoltaic materials and systems design, he revels in the exchange between the sciences, society, and the arts. He served as the faculty director for Penn State's solar house, Natural Fusion, and mentored the student-run Natural Fusion team to a third place victory in two categories within the Department of Energy's Solar Decathlon in Washington, D.C. in 2009.

His research is multidisciplinary and integrates materials research, integrative system design, and grid-tied energy simulations. His textbook "Solar Energy Conversion Systems (SECS)" will be published by Elsevier Academic Press this month (see attached).

Project Justification and Relevance

Bringing Dr. Brownson to campus allows our students to interact with an expert in photovoltaics and sustainability and learn about cutting edge research and opportunities. The afternoon workshop will allow students to work one-on-one to further campus sustainability.

Approach and Methodology

Jeff's talk will focus on integrative design in solar-powered technologies. Jeff is also a passionate educator who teaches and designs courses in Energy and Sustainability, including serving as the program officer for the new Energy and Sustainability Policy major at Penn State.

Expected Products and Outcomes

Jeff will be invited to give a campus-wide lecture on Integrative Design in Solar Energy. Cody Monk and the Sustainability Office will work with Jeff to design a workshop for interested students. Potential topics include integrative design, or a charette to scope out new energy strategies on campus (charette: an intense period of design or planning activity).

The workshop could be akin to:

- <http://www.sevengroup.com/>
- <http://www.sevengroup.com/integrative-design/>

- <http://www.sevengroup.com/integrative-resources/>

Project Budget and Timeline

Budget Table

Items	Cost	Description
Airfare	\$850.00	State College, Penn to SLK
Lodging	\$214.32	Two nights lodging at the Best Western in Saranac Lake
Food	\$ 375.00	Meals for duration of trip, including lunch in Blue Room with any interested students, and dinner with interested faculty and staff
Honorarium	\$ 500.00	
	\$1,939.32	

Budget Justification

Costs requested include actual costs for all items using the best information currently available. See details in table above.

Timeline

Tentatively, the lecture would take place in Freer Auditorium during common time on Friday, April 18, with the workshop to follow. Jeff would fly in on Thursday and fly out on Saturday.

Supporting Documentation

Attached: Dr. Brownson Curriculum Vitae

Media Flyer for "Solar Energy Conversion Systems (SECS)"

Links:

- Research Unplugged lecture "Power Quest: Are We Solving the Sustainable Energy Puzzle?"

<http://news.psu.edu/story/271526/2013/04/03/public-events/video-progress-developing-renewable-energy-using-photovoltaics>

- Faculty Profile:

<http://www.eme.psu.edu/faculty/brownson>