



## Sponsored Seminar

### Alex Davis

Postdoctoral Researcher  
Engineering and Public Policy  
CMU

Presenting on:

### “The Problems of Predicting Participation in Energy Efficiency Programs”

January 8, 2013

12 noon

(Lunch served at 11:50 am)

129 Baker Conference Room  
Department of Engineering and Public Policy

Seminar Abstract: Energy efficiency trials looking at in-home displays, dynamic pricing, and automation have suffered from severe volunteer bias. Using an opt-out design and employing best-practices for recruitment can minimize volunteer bias, but when fully preventative measures are not available, a simple questionnaire can help. Two studies show how to statistically compensate for volunteer bias using Classification Trees and a questionnaire that is at most five questions long and takes only one minute to complete. We present a simple checklist for designing experiments to avoid volunteer bias and ways to compensate for it when design is not enough, allowing electricity researchers to be well equipped to deal with this pervasive problem.

Speaker Bio: Dr. Davis is a postdoctoral researcher in the Department of Engineering and Public Policy, with a focus on the psychology of predicting, explaining, and communicating uncertain scientific evidence. Current research projects include examining whether laypeople know what information on an in-home display would help them reduce their electricity use, using machine learning and psychometric approaches to discover why people volunteer for energy efficiency programs, and developing standards for randomized controlled trials on consumer electricity behavior. Other projects look at whether laypeople believe unexpected scientific evidence should be communicated or suppressed, and how this relates to probabilistic and causal evaluations of the evidence. He received a Ph.D. and M.S. (2012) in Behavioral Decision Research from CMU's Department of Social and Decision Sciences.

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