**Grand Challenges and Opportunities in Environmental Engineering and Science in the 21st Century**

**Date:** Saturday, June 13, 2015, 8:00 am to 5:15 pm

**Motivation:** For many years Environmental Engineers have been dedicated to research and education related to water, air, and soil treatment and remediation, but mostly with a focus on local to regional scales. However, the field is in a state of flux, in part due to the projected increase in world population to 9.5 B in 2050 and the uncertainties associated with climate change. Fundamental connections between local human activities and the global ecosystem are more visible and dynamic than at any previous time. Many environmental challenges in the twenty-first century will require a vision focused more on regional to global scales, and the dynamics of a planet subject to increasing demands due to urbanization. This will require changes in the ways in which environmental engineering science is perceived, taught, and applied.

**Description of Workshop:** The purpose of this workshop will be to identify and highlight the greatest challenges in environmental engineering and science (or environmental engineering science) research and education. This will be the first such workshop since the beginning of this century that will specifically look to articulate future challenges and opportunities for our Community.

**Intended Audience:** Admittance to the workshop will be a one-page summary of what the participant thinks is a “Grand Challenge.” (If more than one, then each requires a one-page summary). These summaries should be sent *prior* to the workshop, see: <http://aeesp.yale.edu/call-participation-workshop-organizers>.

 *During* the workshop each “Grand Challenge” will be introduced by the author in one to two minutes. The participants will then discuss and comment on each and develop additional “Grand Challenges.” *After* the workshop, these will be collated and presented for comment to AEESP membership during a scheduled conference presentation and through the AEESP newsletter.

**Workshop Organizers:** Bruce Logan, Kappe Professor of Environmental Engineering, Penn State University, blogan@psu.edu**.** William Cooper, Program Director, Environmental Engineering, National Science Foundation, Arlington, VA, wjcooper@nsf.gov