

Rose-Hulman Institute of Technology  
5500 Wabash Avenue  
Terre Haute, Indiana 47803

March 23, 2015

President of the United States  
The White House  
1600 Pennsylvania Avenue NW  
Washington, DC 20500

Dear Mr. President,

Rose-Hulman is focused on preparing engineering students with the skillset and mindset to meet the NAE's Grand Challenges. For the past two years, Rose-Hulman faculty have offered a summer program in which students earn credit to design, build, test, and communicate solutions for humanitarian problems. The program is unique in that it is co-taught by three professors from different fields (mechanical engineering, physics, and professional communication) with a just-in-time approach. During the first course offering, the program focused on making solar energy more economically viable and locally manufacturable in Kenya. Students determined the needs of the local customer by interacting with a student from Egerton University in Kenya in person, in order to provide cross-cultural perspectives.

During the second program offering, the focus was on earthquake disaster relief in Haiti. Students developed a system to repurpose plastic trash to create "plastic lumber" by melting the blend through the use of a large solar oven. Not only could this low cost building material potentially help to build new housing for families, but it would also help to alleviate issues with pollution due to the extensive amount of plastic trash found throughout Haiti's countryside.

In addition, the NAE's Grand Challenges are themes in numerous courses offered at Rose-Hulman. These include a technical communications course in which students develop Grand Challenge outreach exercises that are taught to K-12 students in the local Vigo County schools. The students also participate in case study competitions focused on urban infrastructure and revitalizing downtown Terre Haute. Across all of these activities, we are impacting more than twenty five students.

As evidence of the significance of our work in fostering an appreciation of the impact of engineering and its role in serving human welfare, these activities have attracted positive media coverage at the local and national levels.

Sincerely,

*William Q. Kline*

Dean of Innovation and Engagement

