

Name: Alexandra Jeffereds

Major: BioEngineering

Honors and Awards:

- Full-Tuition Merit Scholarship
- Alpha Eta Mu Beta, Biomedical Engineering Honor Society

Experience and Community Outreach:

- Teaching Assistant, Wheelchair Construction Studies
- Certified Aide, Adapted Aquatics
- Volunteer, Adapted Physical Education
- Builder, Model Wheelchair
- Member, Pitt Quiz Bowl Team

Future Plans

“After graduation, I will continue working at the Human Engineering Research Lab, and will attend the University of Pittsburgh’s School of Health and Rehabilitation Sciences as a graduate student.”

Voting Information

Allegheny County, Municipality of Pittsburgh (Precinct 04 14)

Project Abstract

I work at the Human Engineering Research Laboratories, a lab associated with the University of Pittsburgh and the Department of Veterans Affairs. For the past year, I have been working on a project to design an electric-powered wheelchair for India. We hope that this device will bring affordable mobility to Indian citizens with disabilities who, due to the severity of their impairments, cannot benefit from a manual wheelchair alone. Because terrain in India can be rougher and more varied than it is in the United States, our wheelchair is designed to maintain traction and stability even on uneven terrain. We have attempted to reduce the cost of the wheelchair to an amount appropriate for the Indian healthcare system by using materials that are available in India, employing an easily manufactured design, and minimizing the amount of expensive electronics. We hope that the innovations appropriate for the Indian populace can also be applied to the United States, where there is also need for a low-cost power wheelchair.

Project Faculty Advisor: Rory A Cooper, Department of Rehabilitation Science and Technology, School of Health and Rehabilitation Sciences, Pittsburgh Campus

