2010 Murphy Society Student Funded Projects:

**MBECC 2011 Northwestern University Biomedical Engineering Society Student Chapter Conference**

*Yuanjia Zhu, Biomedical Engineering Society, Class of 2012*

Northwestern University Biomedical Engineering Society proposes to organize a BMES Student Chapter Conference at the Midwest Biomedical Engineering Career Conference (MBECC) 2011 at Northwestern University. This new initiative would first consist of attending the national Biomedical Engineering Society annual conference for outreach and learning purposes, and then organizing the following sessions at MBECC: a BME Alumni Panel on Transitioning from School to Industry, a BME Career Workshop on Leadership and Effective Communication, and a Student Networking Session and Reception. This project will not only foster the education and the industrial career planning of Northwestern University students, but it will also enhance the impact of biomedical engineering on the Midwest community and on human health.

**National Society of Black Engineers – Key to College Program**

*Candace Brown, Class of 2011, Treasurer, Finance Chair, National Society of Black Engineers*

The Northwestern University chapter of the National Society of Black Engineers (NSBE-NU) is planning to host the first ever Key to College program this fall. The goal of this program is to teach junior and senior high school students about the college application process. We will cover all of the basics including standardized test preparation, essay writing, and the financial aid application. In addition to preparing college-bound high school students for the college application process, we also hope to advance both the Northwestern and McCormick brands and increase engineering and STEM enrollment at Northwestern.

**Portobelo Wastewater Treatment Sludge Drying Bed and Trickling Filter Construction**

*Andrea Morgan, Engineers for a Sustainable World*

The goal of the Portobelo Wastewater Treatment Project is to provide the community of Portobelo, Panama with a higher quality of life by improving wastewater treatment and thus promoting health, tourism and environmental sustainability. Currently the Guinea neighborhood, which contains approximately thirty homes, treats its sewage with a neglected septic tank which empties raw sewage into a stream that runs through the historic district of Portobelo (a UNESCO World Heritage Site), damaging a historic monument, Fort San Jeronimo. This project will improve wastewater treatment by installing a trickling filter and building a sludge drying bed. This project also focuses on educating the community on the importance of clean water and
protecting the environment through educational outreach programs at local schools and town beautification activities.

**Northwestern Solar Car Team**

*Rebecca Puttkammer, Treasurer, Northwestern Solar Car Team*

The mission statement of the Northwestern Solar Car Team 2010-2011: To enhance team members’ preparation for professional and technical careers by designing, building, and racing a solar powered vehicle and by expanding public knowledge and interest in alternative and efficient energy. Through its creation in 1997, NUsolar has done exactly that and constructed 5 solar powered cars. In order to continue to accomplish our mission, we must build a 6th car, which will be significantly better than all its predecessors using the most advanced materials and technology our budget can afford. The Solar Car Team of 2010-2011 intends to use the money requested for the first steps in building our 6th solar car; to create a full-sized mold of the solar car body using a high density machining foam, which we will then use for the layup that will produce the car’s “shell” itself.

**NASA Undergraduate Microgravity Competition**

*Ethan Coffel – 2013*

We will enter NASA’s Undergraduate Microgravity Competition, in which we will design and implement an experiment to take aboard NASA’s microgravity aircraft. A proposal will be submitted to NASA in mid October detailing our proposed experiment, and construction of the apparatus will begin in January. If selected by NASA, we will take our experiment to Johnson Space Center in Houston, Texas during spring break to fly. We are requesting funding for the construction and implementation of our experiment and transportation and lodging at the competition.