



American Society of Mechanical Engineers
Student Chapter at The City College of New York

Diversity Action Grant Final Report 2014-2015

Date: 05/31/15

Student Section: New York Metropolitan Section – The City College of New York

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Summary of DAG Project

ASME DAG Funding: \$2,000

Total Project Budget: \$7,423.18

Partnering Organizations: Tau Beta Pi (Honors Society), AIAA (American Institute of Aeronautics and Astronautics), SAE (Society of Automotive Engineers), ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), NSBE (National Society of Black Engineers), SWE (Society of Women Engineers), SHPE (Society of Hispanic Professional Engineers), and ANS (American Nuclear Society).

Attendance:

Total:	154
Women:	24
Minorities:	106



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ASME Section Representatives:

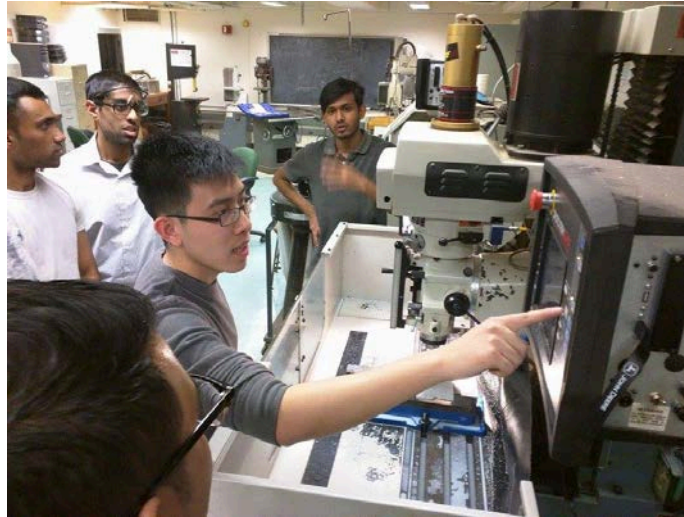
Student Section President: Valeria Aucupina
Student Section Vice-President: Kari Andresen
Student Section Treasurer: Shakawat Hossain
Student Section Secretary: Christopher Lunger

Project Title: Student Mentorship Program

Project Description: The Diversity Action Grant was used to enhance the mentoring program by allowing the CCNY student chapter to participate in projects such as the Student Design Competition or the Human Powered Vehicle Competition that will appeal to the diversity of underclassmen in order to increase retention rates. The funds were also used toward financing collaborative events in which children were introduced to several engineering projects achieved by the engineering students.

Project Goal/Objective and how it was achieved: This year we advanced our mentoring program not to only increase connections between upperclassmen and lowerclassmen to help retention rates but also to get lowerclassmen more involved in the hands-on experience of national competitions like the Human Powered Vehicle Competition and the Student Design Competition. This underclassmen involvement will help maintain their interest in the field while supplementing their coursework with experience in design, manufacturing, and testing, which will better prepare them for their future courses as well as their careers in mechanical engineering.

Evaluation of Program's Success: Appraising the success from the mentoring program, it has captured the attention and the curiosity of many diverse underclassmen. What they educated from this mentorship program aided them an understanding of what future coursework and real life situation would dwell of. Many of the underclassmen got a concept of mechanic and electrical engineering work. This work benefited the underclassmen in the short and long run of their school and career wise.



Upperclassman introduces the CNC machine to underclassman.



Upper and lowerclassmen work together to use vacuum resin infusion.



Senior Mechanical Engineers introduces visiting children to the HPVC velo-mobile and its progress.

Project Title: Student Design Competition (Robots for Relief)

Project Description: Distributing food, clean water, fuel, medical supplies, and assistance to places such as the Philippines after the typhoon Haiyan hitting it, is a very tedious task especially with the rough terrain that was created from the disaster. This year's challenge was to design a scaled down version of a transporter capable of delivering granular materials guided by a max of one person. The transporter will go through an obstacle of rough terrain, steps, sand, and water.

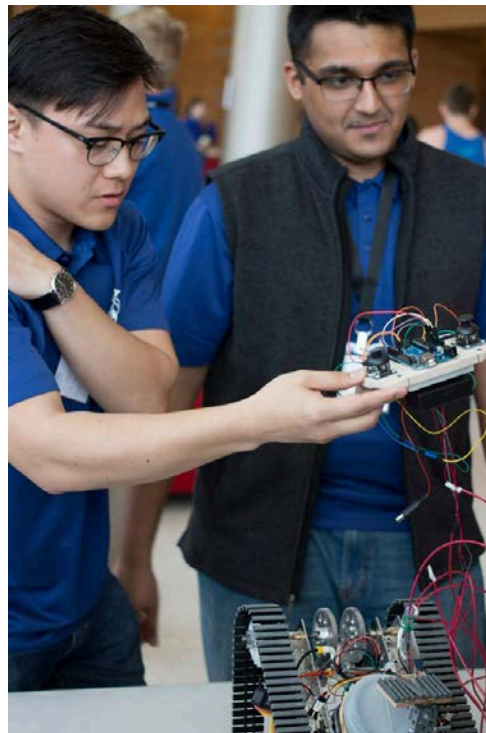
Project Goal/Objective and how it was achieved: The objective was to incorporate a diverse body of upper and underclassmen to work together to construct the transporter. To achieve this we held several meetings beginning of the fall semester of 2014 where students' brainstormed ideas on potential design for the transporter and how to distribute the materials from point A to point B. Throughout the semester, meetings were held once a week to refine the chosen design. In the spring semester of 2015, the transporter was manufactured and testing was conducted to assure the robot was designed to complete its objective.

Evaluation of Program's Success: The success of this project was measured by the students' ability to work together as a team. In addition, many of the underclassmen learned about Arduino boards and basic mechanical and electrical engineering principles. Many of the students went to the competition held at

Temple University in Philadelphia, Pennsylvania. Many of the newcomers to the competition got to meet other engineer members from other universities.



Upper and lowerclassmen powers the transporter to start the obstacle.



Upper and lowerclassmen working on the controller's Arduino board.



Upper and lowerclassmen tweaks the performance before the “go”.

Comments: Although entering the competition as a team, we did not place in the top three but we did achieve the main goal which is to construct the transporter and bring the diverse body of upper and lowerclassmen to learn together about the principles of mechanical engineering and working as a team.

Project Title: Human Powered Vehicle Competition

Project Description: Much like the Student Design Competition, the goal of this project was to create a well-balanced team of students from a variety of backgrounds who were responsible for the design and manufacturing of a highly efficient human powered vehicle.

Project Goal/Objective and how it was achieved: The ASME chapter on campus actively promoted this competition and underclassmen were encouraged to take part and learn more from the senior members of the team. The upperclassmen held several planning sessions early in the fall semester that served as an open call for outside participation from interested students. The team began testing prototypes in November and construction on the final design began in January. The team gained valuable hands on experience using SolidWorks, vacuum-bagging, and manufacturing carbon fiber and fiberglass materials. Several of the graduating seniors were also able to use this competition into their student design project for school work.

Evaluation of Program’s Success: This competition proved to be a great opportunity for underclassmen to learn from their graduating peers and gain the experience necessary to lead future team competitions. One of the heavily involved underclassmen successfully ran for the HPVC Chairperson role for next



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year's competition and has begun actively recruiting potential team members. The new team plans to meet throughout the summer to get a head start on brainstorming ideas to improve upon last year's design and encourage growth among its members.



Part of this year's Final HPVC team.



Team members designing the vehicle's seat.



Team members constructing the vehicle's shell.



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Project Title: Outreach Events

Project Description: Thanksgiving Networking Dinner and Ask a Senior Networking Event.

Project Goal/Objective and how it was achieved: The goal of these networking events was to provide underclassmen with an opportunity to expand their network as well as to grant them advice on how to make the best of their education at the City College of New York. Because these events were hosted by several clubs from our institution, another goal we had was to bring different engineering majors together in a social event. These events turned out to be very successful, as many of the participants continued to network with event speakers even after the events had ended.

Evaluation of Program's Success: The success of this project was measured by the students' ability to network and exchange valuable information with one another. Many of the underclassmen who are not usually active in ASME events broke out of their shell, came to the events, and were able to meet seniors who they had never spoken to before.



Underclassmen networking with engineering seniors in the “Ask a Senior” event.



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Engineering majors interacting in the 2014 Thanksgiving Networking event.