Spartan Engineers to receive top prizes at the AIChE Annual Student Conference - again!

Students from the MSU Department of Chemical Engineering & Materials Science have been among the nation’s top winners in AIChE national contests through the years. AIChE is the global organization for chemical engineers.

In 2016, add Rebecca Carlson and Ariel Rose ('16 CHEMS) to the long list. They will be honored at the AIChE Annual Student Conference in San Francisco, Nov. 11-14, for first prize, the William Cunningham Award – team category, in the AIChE 2016 Student Design Competition.

They join Rebecca Jacobs ('16, CHEMS) who also took top prize in the contest this year.

Jacobs will receive the Walter Howard Design Award in the SACHES Student Competition for Safety in Design. She won best application for her design to up scale safe biomedical engineering practices to a manufacturing level.

Team category -- Rebecca Carlson and Ariel Rose

“For this year's design competition, we were asked to design a process to manufacture neural stem cells from adult-derived precursors for treatment of spinal cord injuries at a commercial scale,” Rose explained.

“In our solution, we did our best to consider many facets of this complex problem. We investigated the demand for treatments, modeled bioreactor conditions, and scheduled batches to maximize equipment use. We also made sure that our process and facility met industry guidelines for a safe, high-quality product,” Rose added.
Carlson is a senior in chemical engineering.

Rose graduated in May 2016 with a degree in chemical engineering. She is a manufacturing engineer at P&G.

**Safety in Design -- Rebecca Jacobs**

"The problem required the design and optimization of a neural stem cell manufacturing facility capable of producing enough stem cells to address the United States market for spinal cord regeneration therapies," Jacobs said.

"I approached the problem by upscaling safe biomedical engineering practices to a manufacturing level.

"The design focused on biologically engineered cell types that promoted reliable reprogramming and proliferation of adult stem cells, allowing a large manufacturing throughput while ensuring a safe product.

"I loved participating in the AIChE design competition, as it combined my Chemical Engineering knowledge obtained in class with my creativity and innovative passion."

Jacobs graduated in May 2016 and is now a manufacturing and engineering associate for General Mills.

**A first for MSU**

National recognition in two categories is especially noteworthy – and it is MSU's first time to have a two-woman team win the national team competition, said Martin Hawley, a professor and recent past chairperson of the MSU Department of Chemical Engineering and Materials Science. He is currently senior associate to the dean of engineering and director of the MSU Composite Vehicle Research Center.

"Winning this competition is a testament to the strength of our overall program since the problem is written by a team
of practitioners and represents what the profession expects senior chemical engineers can do by the time they
graduate," he said.

"Winning this competition is the best professional credential a graduating senior chemical engineer can have on their
CV," Hawley added.

AIChE
The AIChE annual meeting is the premier educational forum for chemical engineers interested in innovation and
professional growth. Academic and industry experts cover a wide range of topics relevant to cutting-edge research,
new technologies, and emerging growth areas in chemical engineering.

Related Website: AlChe Student Design Competition – Team
AlChe Safety Design Competition
Communications contact: Patricia Mroczek

Source URL: https://www.egr.msu.edu/news/2016/10/17/national-alche-honors