

Summit High School Showcased at MIT

by K_Guice

Creating a hybrid electrical power generator may sound like a task for engineering scholars at Massachusetts Institute of Technology (MIT), but in reality it was a project assembled by a group of Summit High School student.

The Summit High School InvenTeam showcased their Hybrid Electrical Generating Unit (HEGU) during the Lemelson-MIT InvenTeams Odyssey at MIT. The HEGU is designed to provide clean electrical power to the next generation of "plug in" hybrid electric vehicles. Photo: Courtesy of the Lemelson-MIT Program Under the direction of Chip Miller, an instructor at Summit, students were able to stretch their minds and utilize past design technologies class experience to build an energy invention that was later showcased at InvenTeams Odyssey hosted by MIT. Nick Dasen, a sophomore at the time at Summit High School says from traveling to Boston to putting the machine together in Bend, it has been a great experience. "It was a lot of fun," he said. "You get to work with the machines and see what people in real life are working on and see the final project when it's all done."

Summit was one of two Oregon high schools to travel to MIT in Cambridge, Massachusetts. Philomath High School showcased a small-scale, reusable, enzymatic biodiesel unit. "Our biodiesel project allows them (students) to work on problems that are cutting-edge and relevant to their own futures," said Tom Thompson, an instructor at Philomath High School.

The two teams traveled to MIT to meet with this year's InvenTeams participants, MIT alumni, staff and leaders in Boston's science and engineering community. Students showcased their inventions, discussed their creative processes, received feedback and suggestions for further development of their inventions. Dasen said all 18 schools invited to participate had interesting inventions and he enjoyed having the opportunity to learn from other students. "We got to see all the other projects and listen to each others presentations," he said.

While some of the ideas were still in the prototype stage, Dasen said he was intrigued by the promise of what they could mean in the future. "They had an omnidirectional wheelchair that was a neurological wheelchair. There was a vibration sensor robot used to search for people. That could have been used in a situation like 9-11," he said. "And there were land mine removers that cost around \$1,000 to make."

"Working with the Lemelson-MIT Program has been very rewarding," said Toby Campbell, Saturday Academy's special projects manager. "We are pleased with the tremendous support from local education professionals and MIT alumni."

Saturday Academy was integral to the review process and referred the two Oregon teams to a panel of judges comprised of MIT faculty and alumni, high school educators, professional inventors and Lemelson-MIT Program staff. Saturday Academy is a self-funded, pre-college program of Portland State University that is jointly allied with Oregon Health & Science University.

Campbell said the two teams were chosen because of the ingenuity of their proposed inventions, organization of their projects, level of student involvement and potential for collaboration with outside organizations.

Dasen said, thanks to Mr. Miller, the students were able to be totally involved. In fact, he said the teacher let the students truly own the project. "He taught us how to use all the machines and set us loose," he said. "It was intended to be our project and he let it become our project, which is unique in a teacher."

Together the team built the generator from the ground up, according to Dasen. "I welded and ground on it

and helped assemble it," he said.

One of the more challenging but interesting aspects of the generator was the electrical system. "Most of us hadn't wired before, it was interesting learning it on the fly," he added.

Beyond the project, Dasen, now moving into his junior year at Summit, said traveling to MIT was a great experience and gave him a glimpse into the future. "It gives you a real sense of college life," he said.

What he will study once he gets to college is still uncertain. "Maybe something engineering related," he said thoughtfully. "But whether I become an inventor is debatable."

No matter what path Dasen or the other students take, they all take something more away from participating in special projects like this. "There is the knowledge of what it feels like to complete one of these large projects and pride knowing I can do it."

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