Student-Built Solar, Wind-Powered Vehicles Deliver Imagination, Innovation to Northrop Grumman Engineering Competition.

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National Engineers Week event exposes students to rigor, rewards of STEM careers

REDONDO BEACH, Calif., Feb. 25, 2014 /PRNewswire/ -- Student teams from six Los Angeles-area high schools proved on Feb. 21 that amazing things can happen when imagination goes head to head with an engineering problem, a limited budget and not enough time.

(Logo: http://photos.prnewswire.com/prnh/20121024/LA98563LOGO)

That was the conclusion of the judges panel for the 2014 Northrop Grumman Corporation (NYSE: NOC) High School Innovation Challenge (HSIC), a student engineering competition held annually as part of the company's celebration of National Engineers Week.

Photos accompanying this release are available at: http://media.globenewswire.com/noc/mediagallery.html?pkgid=23774. A video can be viewed at http://youtu.be/xQVymlkgXiM.

The challenge, which is modeled each year after a Northrop Grumman program or engineering capability, is designed to stimulate student interest in pursuing careers in scientific or engineering fields. The goal of this year's competition was to design and build a renewable-energy-powered model vehicle that could carry a payload as efficiently as possible over a set distance.

"The Northrop Grumman High School Innovation Challenge exposes students to the major steps required to develop, document and demonstrate an engineering concept," said Krystal Puga, a systems engineer on Northrop Grumman's James Webb Space Telescope project and the company's HSIC deputy coordinator. "It teaches them how to develop, document and present their ideas; manage a schedule and budget; and prove that their concept meets the customer's requirements."

The teams participating in this year's HSIC included the California Academy of Math and Science in Carson; Da Vinci Science High School in Hawthorne; El Segundo High School; Lennox Math, Science and Technology Academy in Inglewood; Hawthorne Math and Science in Hawthorne; and Palos Verdes Peninsula High School in Rolling Hills Estates.

Over the course of the 12-week competition, the HSIC teams – each one mentored by a Northrop Grumman engineer – were graded on their ability to develop and document their vehicle's design in a written report; present the concept orally to a panel of engineers; and prove the vehicle's performance on the test track.

During last week's "final exam," held in Aviation Park Gymnasium, the students' solar- and/or wind-powered model vehicles' were scored on their ability to carry a payload down a 30-foot test track, drop the payload and then raise a victory flag – all within a set period of time.

Not every vehicle performed as well as expected, but to a person, the students were positive and philosophical about value of the competition, said Puga.

"If there's one thing we've learned, it's the importance of planning, and organization," said Alex Brass, a senior at Palos Verdes Peninsula High School. "It's really important to make a schedule – for everything – and stick to it."

Ernesto Amezquita, a senior at Da Vinci Science School, said, "the most fun part was the design phase and the brainstorming. Sometimes you think that your idea is significant, but then someone adds a new piece to the design and it just completely redefines the project. This competition really opened my eyes to the value of teamwork."

The top prize in the 2014 Northrop Grumman High School Innovation Challenge went to Lennox Math, Science and Technology Academy. Hawthorne Math and Science Academy placed second, while Da Vinci Science School was third. The spirit award for showing judges the most enthusiasm for teamwork and engineering was presented to Palos Verdes Peninsula High School.

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