

# Detroit Auto Scene

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## GM Milford Hosts Dynamics Testing For Student EcoCAR Competitors

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The auto dynamics phase of the ongoing EcoCAR student car competition concluded at the GM Milford Proving Ground last week.

As you read this, the same set of 16 student cars that were at Milford for most of

last week are this week in Washington, D.C. – including a White House visit on Tuesday.

Officially called “EcoCAR: The Next Challenge,” the big car renovation project brings together 16 universities and their students, all of whom are tricking out GM-provided vehicles but with 21st century fuel economy advances built in lieu of bling.

“If you look at what we’re trying to do from a corporation point of view, it actually goes much further than this competition,” observed GM’s Michael “Micky” Bly, executive director of Global Electrical Systems, Hybrids, Electric Vehicles and Batteries.

“We honestly believe that

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PHOTO: GERALD SCOTT

The Rose-Hulman University entry amidst all the hubbub inside Building 16 at the GM Milford Proving Ground as part of the ongoing EcoCAR competition.

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PHOTO: GERALD SCOTT

GM senior executive Tom Stephens, right, chats with Emery Ridge student Stephen Renick as part of the EcoCAR competition held at Milford Proving Ground last week. Renick will begin work as a validation engineer at the GM Tech Center later in July.

## GM Milford Hosts 2011 EcoCAR Competitors

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there is a considerable lack of future growth of students that want to get into STEM – Science, Technology, Engineering and Math.

“And we’ve gone down a pathway of trying to take a holistic approach of not only working with young kids with Lego leagues and FIRST Robotics, which has been around for a number of years to help kids learn the fundamentals of a competition environment in a technical manner.

This is where GM’s numerous partners on the EcoCAR project, led by the U.S. Department of Energy, come into play.

“Continuing, how do we get educational understanding and interest into the college area?”

“We’ve worked with the DOE for over 15-18 years now in competitions like this, starting from the early days of Ethanol Challenges, Methanol Challenges, you name it, of alternative fuels.

“DOE has a specific need of understanding sustainability

Using a real-world engineering process modeled after GM’s Global Vehicle Development Process, teams have integrated their advanced technology solutions into a vehicle donated by GM.

The GVDP is the modeling simulation process currently used to develop all of GM’s mainstream vehicles.

This real-world approach gives students valuable hands-on experience in engineering practices and resource allocation.

The EcoCAR competition is unique for its focus on modeling and simulation, as well as subsystem development and testing, rather than just hardware modifications.

Said Bly, “We have a three- or four-year exposure to universities, to their students and what they have to offer GM.

“Think of it almost a ‘three-year (job) interview’ for some of these students.

“We know these students by their first names, we know what classes they’re taking, we have mentors assigned from GM to go to the schools and

from a policy point of view, and we have a very important need of policy introduction.

“So what does GM get out of it? We get out of it a lot – a great relationship with the Department of Energy and the 20-30 other key sponsors with us. We get a great relationship with the administration and then finally we get access to the best and brightest students in the university system in North America.”

All of which brings Bly, GM, the DOE and 16 student cars to industrial Building 16 on the campus of the Milford Proving Ground.

There, the competition challenged those 16 teams gathered from across North America to reduce the environment impact of vehicles by minimizing the vehicle’s fuel consumption, petroleum use and emissions, while maintaining its utility, safety and performance.

The goal for the students is to design and build advanced propulsion solutions that are based on categories from the California Air Resources Board (CARB) zero emissions vehicle (ZEV) regulations.

Students are encouraged to explore a variety of solutions including electric, hybrid, plug-in hybrid and even hydrogen fuel cells.

In addition, they incorporate lightweight materials, improved aerodynamics and utilize alternative fuels such as ethanol, hydrogen and biodiesel.

work with them, so we get to know them intimately.

“It’s much different than a one-hour interview at a college or university when you see 200 students coming through for interviews.

“So we have a three-year interview process with these students... we see their work ethic, we see their leadership skills.”

EcoCAR: The Next Challenge was established by the DOE and General Motors and is being managed by DOE’s Argonne National Laboratory in Illinois.

At Building 16, a number of GM and Argonne engineers were available for the students to ask questions and engage in discussions.

GM senior executive Mary Barra issued the following statement in the EcoCAR event program:

“Throughout the competition,” she writes, “these 16 universities have gone from researching and selecting propulsion technologies to integrating their subsystems into Chevrolet-donated vehicles.

“In year two, teams tested their ‘mule vehicles’ at our Desert Proving Grounds in Yuma, Ariz., and then presented their work to judges in San Diego.

“In the final stage, the teams meet at our company’s Milford Proving Ground where their vehicles will undergo tests that mimic traditional testing that is typically done on GM car production.”