



Alison Davis-Blake and Mark Reuss

'By Supporting Higher Education, We Ensure the Next Generation Receives Knowledge, Skills to Compete' – Pickard

The General Motors Foundation has just issued grants totaling \$2.9 million to support 26 leading universities and partnering organizations across the country this year through its University/Organization Partner Program, said Foundation spokesperson Maria Mainville. The announcement was made on Nov. 26.

The initiative provides funding to advance secondary education curricula in science, technology, engineering and mathematics, also known as STEM, information technology and other fields important to the automotive industry, Mainville said.

"Working with leaders in education to strengthen curricula, foster a diverse learning environment and challenge young minds is a top priority for us," said GM Foundation President Vivian Pickard.

"By supporting higher educa-

tion programs, we are ensuring that the next generation of leaders and innovators receive the necessary knowledge and skills to compete in a global marketplace."

On the University of Michigan campus Nov. 7, GM North America President Mark Reuss presented a \$250,000 check to Alison Davis-Blake, Edward J. Frey Dean of U-M's Stephen M. Ross School of Business.

Over the last decade, the GM Foundation has awarded nearly \$31.3 million in grants through the University/Organization Partner Program, Mainville said. Through this annual program, the GM Foundation helps prepare more students to graduate with STEM-related degrees. The funds also support design and manufacturing degree programs, diversity initiatives, student or

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Ford F-150 Pickup with CNG

F-150 Pickups with CNG Are On Their Way to Dealerships

Customers looking for a pickup that can run on compressed natural gas (CNG) can find it in the 2014 F-150, soon to be available at Ford dealerships, said Ford spokesperson Ron Hall.

The CNG-capable pickups began rolling off the line in late November, making Ford the only manufacturer with an available CNG/Liquefied Petroleum Gas (LPG)-capable half-ton pickup, said Hall.

The 2014 Ford F-150 with 3.7-liter V6 engine is available with a factory-installed, gaseous-fuel prep package that includes hardened valves, valve seats, and pis-

tons and rings so it can operate on either natural gas or gasoline through separate fuel systems, Hall said.

When equipped with a bi-fuel CNG/LPG engine package, the 3.7-liter V6 F-150 is capable of achieving more than 750 miles on combined tanks of gasoline and CNG, depending on the tank sizes selected, Hall said. The Ford F-150 with 3.7-liter V6 has an EPA-estimated rating of 23 mpg on the highway and 19 mpg combined.

"Businesses and fleet cus-

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Chrysler Academy Hits the Road

Chrysler's World Class Manufacturing (WCM) Academy now has wheels and is hitting the road.

In an effort to bring the innovative training academy and the WCM methodology to more employees, Chrysler has created a mobile unit from a refurbished former motorsports trailer.

Over a three-month period, the trailer was converted into a state-of-the-art rolling classroom that will travel to the automaker's U.S. and Canadian manufacturing facilities to expand WCM knowledge and broaden implementation of its processes, said company spokesperson Jodi Tinson.

Chrysler Group's four Kokomo, Ind., facilities were the first to fully utilize the mobile unit with a series of classes during the week of Nov. 18.

"Now we can bring the academy directly to the plants," said Wendy Santure, Training and Development lead for the WCM Academy and Mobile Unit lead. "This mobile unit will allow us to have an immediate effect on the plants by delivering key concepts and methods in a quick, concentrated way. By expanding WCM knowledge deeper into the plants, we can ensure all employees are using the methodology."

First implemented by Fiat in

2006 and introduced to Chrysler Group as part of the alliance between the two companies in June 2009, WCM is a methodology that focuses on reducing waste, increasing productivity, and improving quality and safety in a systematic and organized way, Tinson said.

WCM engages the workforce to provide and implement suggestions on how to improve their jobs and their plants. It has become the driving force behind the improvements in all of Chrysler

Group's manufacturing plants with four facilities achieving Bronze status, a significant milestone in the WCM process, in 2012.

While the Academy's mobile unit is on site, students will use cutting-edge tools like iPads, smart TVs and interactive teaching methods to learn about WCM methodology, Tinson said.

Courses will initially focus on establishing and reinforcing WCM basics, such as under-

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Chrysler Gearing Up to Sell Stock on the Open Market

FLORENCE, Italy (AP) – Chrysler won't be offering its stock for sale on the public markets this year.

Italian automaker Fiat SpA, Chrysler's majority owner, said in a statement last week that Chrysler's board has determined an initial public offering is "not practicable" in 2013.

Instead, Chrysler Group LLC will continue work on the offering so it can happen in the first quarter of next year, the statement said.

Fiat owns 58.5 percent of Chrysler's shares, with the re-

maining 41.5 percent held by a United Auto Workers union trust fund that pays health care bills for blue-collar retirees.

But Sergio Marchionne, CEO of both automakers, has been squabbling with the trust over the price, and so far they haven't been able to reach agreement. Marchionne wants to buy the trust's shares in order to combine the companies.

The IPO would consist of shares currently held by the trust. Last month, UBS AG set the

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Silverado, Sierra Reworked for Improved Fuel Economy, Ride, Handling, Safety

by Jim Stickford

The designers and the engineers of the 2014 Silverado and Sierra had the chance to show off their work at the SAE Detroit Dinner at the San Marino restaurant in Troy Nov. 19.

Jordan Lee, chief engineer and program manager for the small block engine family at GM, said the 2014 Sierra/Silverado uses the "Gen 5" small block engine.

"The small block engine is venerable and has been around in one form or another since 1955," Lee said. "As the name indicates, this is the fifth-generation version of the small block engine. We had to redesign every part for the new Silverado/Sierra."

One of the main goals of redesign, Lee said, was to get substantial improvements in fuel economy. They were able to achieve the desired improvements through a combination of three different technologies – direct injection, cylinder deactiva-

tion and variable camshaft timing.

"Cylinder deactivation is done when the truck is 'light loading,'" Lee said. "That means it isn't hauling anything heavy and might even be in cruise control. On our V8, four of the truck's eight cylinders will be turned off. With the V6, two cylinders are deactivated."

By combining these three different technologies in a "synergistic" way, GM was able to achieve much better fuel efficiency, Lee said. "I know the word synergistic sounds like a lot of popular jargon, but what it means in this case is that by combining these three technologies we are able to get results that are greater than the sum of the parts."

And they were able to design the Gen 5 small block engine in a new way as well through the use of computational analysis. By designing the engine using a computer, GM was able to create "vir-

tual engines" whose components could be tested in the computer, Lee said.

This saved the designers and engineers a lot of time, Lee said. In the old days, engineers would have to build a working prototype to test their ideas. That took a lot of time, money and effort. Once they got results, they would then make refinements to the engine design, build another one and then test that engine. During a redesign process, Lee said, it might have been possible to create three or four prototype engines.

Now, using sophisticated software, they've been able to test more than 100 iterations of the Gen 5 small block engine before deciding on the optimal design.

"My biggest surprise on this project was our ability to achieve real-world fuel economy gains," Lee said. "We did this by combining three technologies that have

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Jordan Lee



Jully Buraw



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