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VIRGINIA TECH STUDENTS WIN GM AND DOE CHALLENGE X 2006 COMPETITION

Engineering Students Compete to Improve Fuel Economy and Emissions

MESA, Ariz. – General Motors (GM) and the U.S. Department of Energy (DOE), lead sponsors for the *Challenge X: Crossover to Sustainable Mobility* engineering competition, congratulated students from the Virginia Polytechnic Institute and State University, who took top honors today at this second annual competition in a three-year series.

The Virginia Tech team, located in Blacksburg, Virginia, was among 17 universities from across North America that developed an advanced propulsion technology solution with the goal of improving on-road fuel economy and reducing emissions. The team re-engineered a 2005 Chevrolet Equinox as a split parallel hybrid that uses two electric motors and runs on E85 – an ethanol/gas blend that reduces the vehicle's well-to-wheels petroleum use by 74 percent.

The second place vehicle, designed by students at the University of Wisconsin-Madison, is a through-the-road parallel biodiesel electric hybrid with a diesel 1.9-L turbo charged engine. Mississippi State University was awarded third place overall with a split-parallel, through-the-road hybrid electric vehicle that runs on B20 biodiesel.

“Developing the advanced technologies that reduce U.S. dependence on imported oil is critical to the future prosperity of our country. Challenge X shows that the cooperation of industry, government and academia is an excellent approach to developing more energy-efficient and ‘greener’ automotive technologies,” said Ed Wall, program manager for the FreedomCAR and Vehicle Technologies Office of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy.

Dan Hancock, vice president of GM Powertrain Engineering, said the Challenge X teams are working on the same real-world goals that GM engineers are marching toward on a daily basis.

“These students are working on the same challenges that our GM engineers continually work on every day – high-efficiency, high performance vehicles that consume less fuel and produce fewer emissions from the well to the wheel,” Hancock said. “This hands-on learning is providing them the necessary skills to embark on a career in engineering with a competitive advantage.”

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Virginia Tech Team Wins Challenge X 2006 Competition, Page 2

Challenge X is a unique three-year engineering competition that is providing 17 university teams from across North America the opportunity to follow the GM Global Vehicle Development process and develop advanced propulsion technology solutions that will increase energy efficiency and reduce the environmental impact. The student teams are each re-engineering a Chevy Equinox with their technology solutions. The first year of the program, which began in 2004, focused on vehicle simulation and modeling and subsystem development and testing. In years two and three, students integrate their advanced powertrains and subsystems into the Chevrolet Equinox, a compact SUV that already provides competitive fuel economy. The final competition will be held at the end of the 2007 academic year.

The additional teams participating in Challenge X include Michigan Technological University; Pennsylvania State University; Rose-Hulman Institute of Technology; San Diego State University; Texas Tech University; The Ohio State University; University of Akron; University of California, Davis; University of Michigan; University of Tennessee; University of Texas at Austin; University of Tulsa; University of Waterloo; and West Virginia University.

DOE and GM are the headline sponsors for Challenge X. Other sponsors include Natural Resources Canada; The MathWorks; National Instruments; AVL North America, Inc.; U.S. Environmental Protection Agency; U.S. Department of Transportation; National Science Foundation; Freescale Semiconductor; BP; Cobasys; ChevronTexaco Technology Ventures; Johnson Controls, Inc.; Ballard Power Systems, Inc.; Michelin North America; Sensors, Inc.; dSPACE, Inc.; Renewable Fuels Association; Vector CANtech, Inc.; Dana Corporation; Caterpillar, Inc.; Intrepid Control Systems, Inc.; UGS; MotoTron Corporation; Hydrogenics Corporation; XM Radio; On Star; Gamma Technologies, Inc.; Maxwell Technologies; Igus, Inc.; and First Technology.

Additional information about Challenge X is available on the Web at <http://www.challengex.org>.

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**High-resolution photos of this event are available online at http://autodeadline.com/GM_DOE/
and at <http://digitalrailroad.net/royfel/>**

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