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Joint Society AFS-ASM-SAE
Dinner and Program
Thursday, October 5, 2017
6:00 PM Social Hour, 7:00 Dinner, 8:00 Program
Zehnder's of Frankenmuth
Frankenmuth, Michigan

Reservations required by Noon Monday, October 2, 2017

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Contact: Bernard Santavy at SAEMidMichSec@cs.com or (810)-635-7948

Please join us for a joint engineering society dinner meeting with presentation hosted by **The Saginaw Valley Chapters of AFS and ASM** at Zehnder's of Frankenmuth in the Town Hall Room (downstairs). Enjoy a meal of Family Style Chicken (broiled & fried) with Livers. **Tickets \$25**

**Ms. Sara Stabenow will be presenting the topic
"Progress Update on GM's Fuel Cell Programs"**

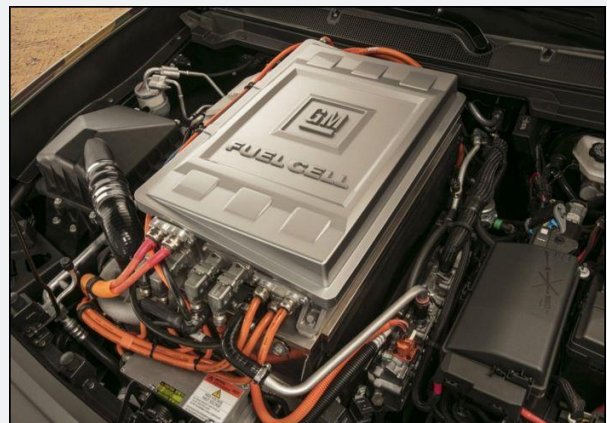
Speaker **Sara Stabenow**



Sara Stabenow was recently featured in a Design News Article on 15 engineers who are transforming the auto industry. She joined GM as a summer intern at the Casting Development and Validation Center, then moved into Transmission and Hybrid Materials Engineering after completing her BS and MS in Materials Science and Engineering at The Ohio State University in 2002. Sara helped develop GM's electric motor manufacturing processes before joining the fuel cell program in 2013. She is currently the program manager for the Fuel Cell Product Execution Team and Technology Collaboration.

Presentation Abstract

After seven years of on-road experience with a fleet of Chevrolet Equinoxes that amassed more than 3 million miles, General Motors is literally branching out – as in military branches – to explore fuel cell applications on land, sea and air. Two demonstration programs – the Chevrolet Colorado-based ZH2 fuel cell electric vehicle demonstrator for the Army and the Unmanned Underwater Vehicle (UUV) for the Navy – are under way. The possibility of aerospace applications for fuel cells are drawing near.



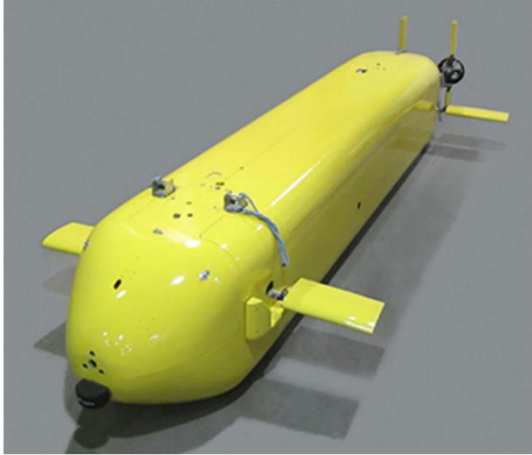
Field testing of the ZH2 on six U.S. military bases through early 2018 is evaluating near-silent operation, low heat signature and the ability to generate electric power away from the vehicle.

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Ms. Sara Stabenow

“Progress Update on GM’s Fuel Cell Programs”

Navy UUV



The UUV has amassed more than 1,000 hours of pool testing at Carderock, Md., where the Navy hopes its hydrogen propulsion system will allow to stay at sea for more than 60 days at a time



GM and Honda Team up to Create Hydrogen-Powered Cars

GM and Honda in January announced Fuel Cell Manufacturing, a joint venture that will mass produce fuel cell systems around 2020 that will be used by the two companies in distinct products. The new system will be more powerful and compact, while using dramatically less platinum and other precious metals than the system that powered the 119 Equinoxes in the Project Driveway program, Fuel cells address two major automotive energy and environmental challenges: petroleum use and carbon dioxide and other polluting emissions. While most hydrogen today comes as a byproduct of natural gas, because hydrogen is so plentiful, it can come from renewable sources including wind and solar and be stored for later use.



Mark Reuss, GM Global Product Development Chief, and Toshiaki Nikishiba, President and CEO of Honda North America, shake hands by a fuel-cell stack. © Paul A. Eisenstein