

As gasoline prices soar, alternative fuel research grows in popularity

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Alternative fuel research is becoming increasingly important to Americans as the nation's drivers continue to cringe at the sight of rising prices at the gas pumps.

Hybrid cars are growing in popularity, endorsed by celebrities and environmental activists alike, but these earth-friendly (and wallet-friendly) gasoline-electric vehicles soon may not be the only viable option for consumers. Though it might seem futuristic, hydrogen is being touted as the world's next petroleum – and ASU's Cody Friesen is helping to turn this theory into reality.

Friesen, a new professor in the departments of Chemical & Materials Engineering and Mechanical & Aerospace Engineering within the Ira A. Fulton School of Engineering, has received a grant from the U.S. Department of Energy (DOE) Hydrogen Program to fund his research in understanding and developing nanoscale materials for hydrogen storage and fuel cells.

“There are three main technological roadblocks that must be overcome for any potential hydrogen economy to come about,” Friesen says. “These are hydrogen production, hydrogen storage and hydrogen use.”

Hydrogen for automotive uses can be derived from a number of sources, including coal and nuclear power. The difficult part is finding the best way to transport, store and most efficiently incorporate the hydrogen into everyday life without the need for constant refueling or the disruption of a car's performance.

Friesen is combining experimental and computational efforts, using highly sensitive and specialized instruments to assist him in his work. He also has been making preliminary calculations using the new Fulton High Performance Computing Center at ASU.

“The funding is for three years, but I expect this program will develop into a longer-term project,” he says. “My program is a new approach to catalyst research.”

While most proposals are collaborations between two or three researchers, Friesen had the determination to stand out on his own as the sole originator on the proposal he submitted to the DOE program. Though this often can be problematic, Friesen's originality and talent won out – an accomplishment that anyone can appreciate.

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