

UNM fuel cell research may provide electrical backup at home

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Graduate students Alec Wiltz(1) and Michael Workman at work on catalysts in the lab.

Research faculty members in the Center for Micro-Engineered Materials and Chemical and Biological Engineering Alexey Serov, Plamen Atanassov, Kateryna Artyushkova and Ivana Gonzales will spend the next two years working to develop materials for a cheaper, more durable and stable electrocatalyst for fuel cells.

UNM will partner with Los Alamos National Laboratory, IRD Fuel Cells and Pajarito Powder, two private companies. Each partner will address a specific technical part of the alkaline exchange membrane fuel cells. This is a significantly different approach to the technology.

"UNM will make a new type of electro catalyst," said Serov, who is the primary investigator on the project. "Pajarito Powders will take our technology and make large amounts of those [materials](#) and Los Alamos

will make a polymer which will be integrated with the materials from Pajarito Powder and then we will give it to IRD."

IRD is a world leader in making membrane electrode assemblies, a critical part of the [fuel cell](#). This project will focus on the use of base metals, rather than platinum as a catalyst. Those metals are significantly cheaper and can be mined in many parts of the world.

The project is funded by the U.S. Department of Energy Fuel Cell Technologies Office and is meant to solve significant technical problems in the manufacture of fuel cells.

The potential application could be significant. "It could be used as a backup source of power for [cell phone towers](#) or as an electricity generator for home applications," said Serov. "It might even be used for trucks or SUV's, but that potential application is probably limited."

Provided by University of New Mexico

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