Michael Golub’s enthusiasm for gasoline-free transportation is, well, electric.

The UAF Civil Engineering Student, the recipient of two Alaska EPSCoR undergraduate research grants, is making great strides in his efforts to document the viability of electric cars in Alaska’s Interior. In addition to using his most recent EPSCoR grant to refine his studies of electric car emissions, he’s also running electric car conversion classes throughout Alaska and recently helped build an electric snowmachine which placed second in a nationwide competition.

And he keeps on converting vehicles to electric, from the snowmachine to compact cars to his own riding mower. “I’m up to eight right now,” he noted in April 2009.

Golub’s first EPSCoR grant, in 2008, financed a preliminary study of the pollutants created by electric cars versus gasoline ones in Fairbanks, as well as their economic efficiency. As Golub notes, Fairbanks is a fertile ground for electric cars, thanks to winter air quality problems and the outlets installed all over town to power car heaters in the winter. “We’re already wired up,” he noted.

Golub had already built his first electric car, a 1986 Toyota pickup, when he received a $3,000 EPSCoR grant in 2008. The grant went toward fitting the car with sensors and devices to study its energy consumption and compare it to an equivalent gas-powered car.

“What I was trying to do was get both theoretical and experimental data and show that driving an electric vehicle is a benefit to the environment because it uses less energy and pollutes less,” he said. “I was able to do that, but not to the extent that I wanted to.”

Golub used his $8,000 2009 grant to refine his findings with improved equipment, and also to fit the test vehicles with lithium batteries, which are lighter and more efficient in cold weather than the lead batteries he used previously.

The lithium batteries also came in handy for the electric snowmachine Golub built with several other students for the senior design project. Golub and fellow students Malcolm Deighton, Peter Morris, Mark Nelson and Lisa Stowell entered the vehicle in the 2009 Society of Automobile Engineers Clean Snowmobile Challenge, held in April in Michigan. The team was second out of five teams in the “Zero Emissions” category, behind the University of Wisconsin-Madison. Golub said the rookie team’s finish was impressive given the experience of the other entrants. “We’re David and they’re Goliath,” he said.

Alaska EPSCoR has also helped Golub’s projects in another fashion: At the 2008 EPSCoR All-Hands meeting he met Todd Radenbaugh of the UAF Bristol Bay campus in Dillingham, which led to Golub agreeing to run an electric car conversion class there. “Dillingham was because of EPSCoR,” he said.

Golub has also run the course twice at UAF, once at Ilisagvik College in Barrow, and once in the Matanuska-Susitna Valley. He’s started a company, RevUP (The Rural Electric Vehicle Utilization Project) to run the courses and to look for funding to improve them.

Golub is set to graduate this year but plans to stick around, as he has applied to grad school at UAF for Mechanical Engineering. “I want to go back to Michigan next year,” he joked, “and beat Madison.”