Alfred University graduate student's research featured in on-line publication
7/30/18

ALFRED, NY – An Alfred University engineering graduate student's research is featured in a recent article in UpstartNY, on on-line publication devoted to entrepreneurship and innovation in Western New York.

The July 27 issue of UpstartNY includes a story titled "WNY College Students are Crafting the Next Big Things in Clean Energy." Behrouz Azimian, a graduate student seeking a master's degree in electrical engineering from Alfred University, is featured in the article.

Azimian is researching how to make the University and surrounding area – including neighboring Alfred State College and the village of Alfred – a more resilient community through the use of wind, solar and biomass resources. Click here to read the article.

According to his research, Azimian estimated that by 2030, the level of renewable energy penetration in New York State's electric power generation will be 50 percent. With wind and solar farms expected to increase in size and scope in Upstate New York (including the Southern Tier of Western New York), ways to store energy for local consumption will be needed. Goals of Azimian's research project is to develop a resilient power network that resists power outages due to extreme weather and design a real-time energy management system.

Cleaner, renewable energy sources can be achieved by utilizing batteries as a way to store energy produced by wind and solar sources, and also by biomass (that derived from plants and animals).

Azimian and fellow engineering graduate student Ramin Farajifijani, who is pursuing a master's degree in mechanical engineering from Alfred University, recently presented a paper theorized on the use of the Stackelberg leadership model of economics to find an optimum market price for the electricity used in electric battery-powered vehicles. The paper – titled "Probabilistic Methods: Practical Approaches for Managing Risk and Uncertainty in the Electric Power Industry" – was presented at the Probabilistic Methods Applied to Power Systems (PMAPS) 2018 Conference June 24-28 in Boise, ID. Some findings in the paper are being applied to Azimian's research on creating a resilient community.

Xingwu Wang, professor of electrical engineering and renewable energy engineering at Alfred University, along with Ehsan Ghotbi, Alfred University assistant professor of mechanical engineering, teamed with Azimian and Farajifijani to author the paper presented at the PMAPS Conference. Wang said in the UpstartNY article that tech-savvy engineers like Azimian will be at the forefront of efforts to create breakthroughs in clean energy production.