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University of Dayton

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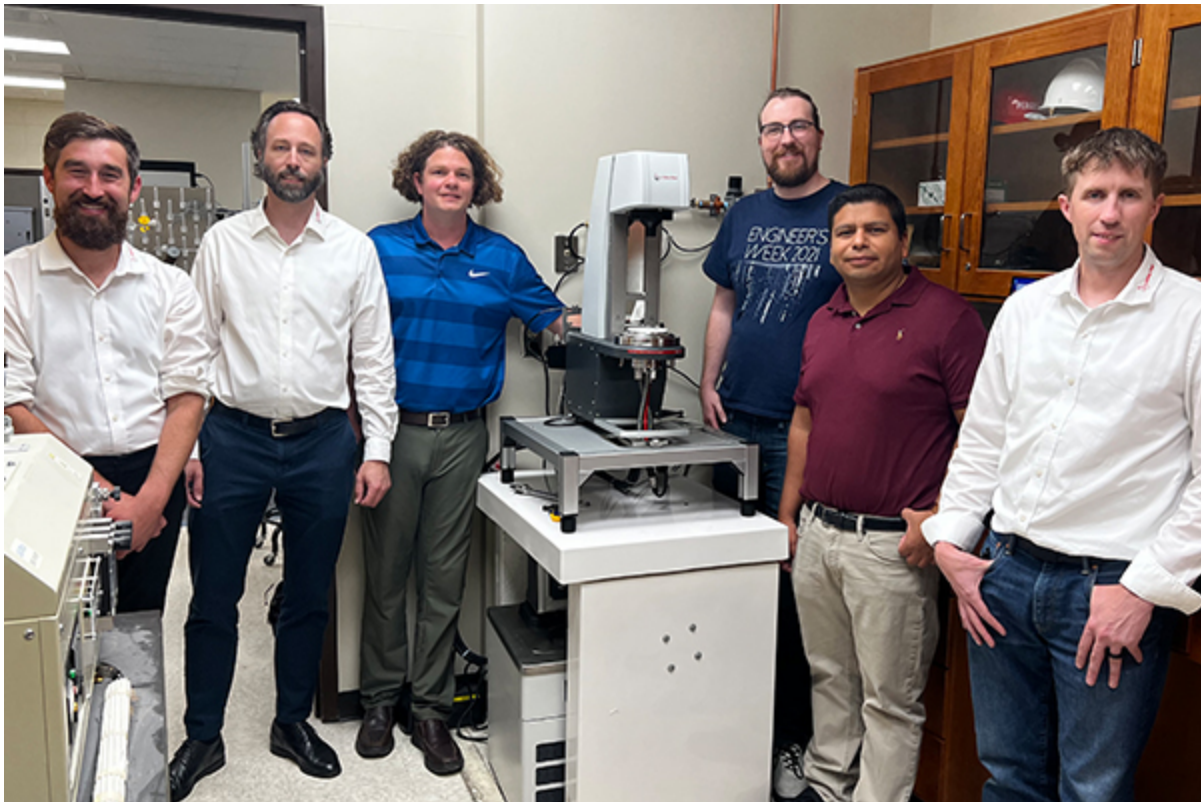
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Wednesday August 16, 2023

Funding from the National Science Foundation and Ohio Department of Higher Education will allow University of Dayton and Central State University researchers to enhance learning opportunities for students on and beyond campus.

Erick Vasquez, UD associate professor of chemical and materials engineering, and four School of Engineering colleagues, received more than \$400,000 to purchase instruments to study and measure how matter moves and changes in extreme environments and conditions.

"This system allows us to begin research projects we likely wouldn't have access to otherwise. This also will help us to recruit students interested in STEM to UD and Central State, hopefully engaging them in this research when they get to campus," Vasquez said.

Approximately 40 students from UD and Central State will participate in research projects related to:

- Additive manufacturing
- Thermochemical energy storage
- Drug delivery
- Magnetic fluids and gels
- Soft robotics
- Quiet drone propulsion systems

"As a smaller university serving a minority student population marginalized in STEM, working with this equipment is bridging the gap of access to resources for our students," said Leanne Petry, Central State University professor in the agricultural and life sciences department.

"Exposure to these instruments can help them see beyond their undergraduate experience.

"They can see a path from CSU to getting a master's or PhD at UD, that it's possible to do because they've already been on the campus and have growing research skills, that they can belong in an institution such as the University of Dayton."

Beyond UD and Central State, Dayton's Boonshoft Museum of Discovery will feature one of the portable instruments during their science fairs. UD students will have an opportunity to make educational videos and podcasts about the equipment for the museum's YouTube channel where children can learn about the equipment and its relation to science and engineering.

"By exposing young people and students through these outreach opportunities, they will be able to engage and build a sense of curiosity with science," Vasquez said. "Maybe they will get into engineering or, at the very least, have a better understanding of how everything flows and continue that curiosity in whatever they do."

[Click here to learn more about the project.](#)