

UT launches program to study data center sustainability

Emily Krupa, Senior News Reporter

The Jackson School of Geosciences started a new program where members will research sustainability and data centers, according to a Sept. 23 news release.

The program, Collaborative Optimization & Management of Power Allocation, Surface & Subsurface Strategies, will bring together doctoral students, postdoctorates and people from the Texas Legislature with expertise in energy, water, surface and subsurface land, according to its website. Ning Lin, chief economist at the Bureau of Economic Geology at UT, said members will navigate the sustainability of the growing data center industry in the state.

"The state and the community really need our support," Lin said. "We have to go really fast."

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Analise Pickerrell

Data centers store computers that support everything from home security to using Microsoft Word, said Mitch Lenzi, vice president of sales and operations at Baxtel, a company that tracks locations of these centers across the world.

Texas is the second largest market for data centers in the U.S. after Virginia, according to Data Center Map, a global directory mapping these locations. Lenzi said there are 484 data centers in Texas with over 45 gigawatts of projects planned in the next several years.

"These data centers allow really fast, high-energy computing and processing, and running really intensive applications," Lenzi said. "Your computer certainly uses some of its own processing and power to open the application and send a query out, but somewhere in the world that query has to be received, and that's in a data center."

Energy and water usage are two of the main concerns for the sustainability of data centers, said Miguel Yañez-Barnuevo, project manager at the Environmental and Energy Study Institute. These centers require energy to run their systems and most get that energy from the power grid, he said. The data centers are always processing data, which causes the computers to heat up and to need water to cool down, Yañez-Barnuevo said.

"They all use the same grid," Lin said. "They all use the same water system. They're all our neighbors."

Since data centers and the community are connected, Lin said the program focuses on collecting and analyzing data to find the best locations for data centers in Texas. A coordinated plan will be better for resource management, state policy makers and data center development, she said.

“The infrastructure doesn’t follow them, and infrastructure takes a lot of money to build, and it takes time to build,” Lin said.

“The better we have foresight of what it takes to build a large data center ... we could figure out a solution.”

Lin said the program is a great opportunity for researchers to collaborate and network while proposing solutions to problems.

“The beauty of this is — especially for young researchers and postdocs and graduate students — they really get exposure to work on something that is so urgent and critically important,” Lin said.

Editor’s note: The image corresponding with this story incorrectly spelled the program’s acronym as “COMPACT” rather than “COMPASS.” This illo has been updated.