

# **UW-Madison student team awarded \$250,000 for carbon dioxide removal**

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A team of UW-Madison students is getting a \$250,000 award for carbon dioxide sequestration research through a global competition backed by the Musk Foundation.

The XPRIZE for Carbon Removal Student Competition recently announced \$5 million in awards for student teams. The Madison team is getting the largest possible award for the student competition for its work to pull carbon dioxide out of the air, reducing the environmental impact of this greenhouse gas.

Their system uses a “direct air capture” unit to trap CO<sub>2</sub> and a carbonization mechanism for converting the gas into solid particles that can be repurposed for other uses.

“We are really excited about our technology, and it’s cool to be working on something that has the potential of scaling up in a big way and actually have an impact,” says team leader Keerthana Sreenivasan, a graduate student in civil and environmental engineering.

Entrepreneur Elon Musk’s nonprofit research foundation is providing \$100 million for the global effort, which funds eligible projects among both students and established scientists. It’s aimed at scaling up engineering systems to maximize their potential environmental impact.

Bu Wang, an assistant professor of civil and environmental engineering at UW-Madison and co-advisor for the student team, holds a patent for the carbonization component of the system. A release from the university shows the final product — which includes fine limestone and activated silica particles — can be used in construction as a cement alternative.

“In essence, we’re converting carbon dioxide from the air into carbonate minerals that can be upcycled into construction materials,” Wang said.

After receiving the award, the student team will proceed in the contest, which runs through Earth Day 2025. Further efforts will focus on refining the system, scaling up its capacity and planning how to implement the technology in a practical manner.

Team members include six graduate students from the university’s College of Agricultural and Life Sciences, College of Engineering, College of Letters & Science and Nelson Institute for Environmental Studies, as well as two undergraduate students. Rob Anex, a professor of biological systems engineering and another co-advisor for the team, says students learn a lot by taking part in the competition.

“Some of these students might make a career out of this,” Anex said. “It’s an important problem and I’d love to see a bunch of them work on solving some of the big environmental problems that face the world.”

See more on the competition here: <https://www.xprize.org/prizes/elonmusk>

*-By Alex Moe*