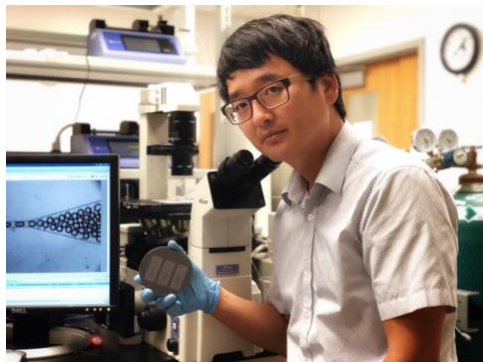


Tech May Help Address Global Warming

Boca Raton, Fla. (Oct. 10, 2018) – There's too much carbon dioxide in the atmosphere, which is contributing to sea level rise, an uptick in intense wildfires, floods, tropical storms and global warming. One potential solution is to store some excess carbon dioxide underground, in pockets of saltwater – referred to as geologic sequestration.



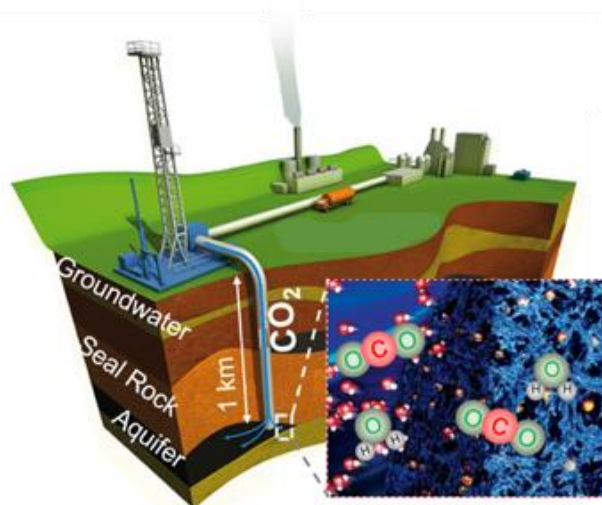
Gabby Alvarez Perez, a recent FAU High School graduate, collaborated with Xavier Comas, Ph.D., associate professor in the Department of Geosciences and Mike Kim, Ph.D., assistant professor in the Department of Ocean and Mechanical Engineering, to develop a technology that uses tiny particles of nickel to accelerate the dissolution of carbon dioxide in the saltwater to help keep it stored there.

Their study, recently published in [Scientific Reports](#), sheds light on enhancing geologic sequestration into deep saline aquifers to mitigate atmospheric CO₂ levels.

Mike Kim, Ph.D., holds a silicon wafer used in his CO₂ research. A high-speed camera aided the team in viewing CO₂ microbubbles to quantify the hydration rate of CO₂ into the saline solution.

"This carbon capture and sequestration technology is an important climate change mitigation strategy: it helps reduce the amount of carbon dioxide in the atmosphere," Kim said. "My laboratory is developing a novel approach to enhance carbon hydration in saline water with nanoparticles and polymers."

This marks the twenty second peer-reviewed journal publication co-authored by an FAU High School student. Alvarez Perez has enrolled at the Massachusetts Institute of Technology.



The team injected captured CO₂ deep into a geologic saline aquifer, where it reacts with resident fluid and minerals for permanent storage.