

PRESS RELEASE

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UOG hosts roundtable on using 3D printers to build concrete homes

With Guam experiencing a shortage of affordable houses, the University of Guam recently hosted a roundtable discussion about a potential housing solution that will be quicker than traditional builds, and potentially cost-effective.

The solution? Using robots to build concrete homes. It's not as futuristic as it sounds. Commonly called 3D concrete printing, the technology has led to the development of 3D printed concrete houses in parts of the United States, Japan and Germany, among other nations.

“Solving Guam’s housing affordability challenges will result in more Guam families staying on the island instead of leaving for more affordable cost of living in the continental United States,” said UOG President Anita Borja Enriquez, as she welcomed more than 100 guests who attended the roundtable on November 17 at the School of Business and Public Administration.

Dr. Ernesto Guades, Assistant Professor at the University of Guam School of Engineering, <https://www.uog.edu/schools-and-colleges/school-of-engineering/> also presented research at the School of Engineering to reuse old concrete waste from demolished buildings and recycle them for gravel and sand that can be used for paving and other construction projects.

The roundtable, organized by UOG’s Office of Research and Sponsored Programs (ORSP), offered perspectives from experts who are already in the business of either printing concrete homes or using 3D technology to manufacturer on-demand parts for businesses and the military.

James Lyman, CEO of Mudbots 3D Concrete Printers USA, which offers concrete printers that can build tiny homes to custom homes and industrial buildings, said 3D

concrete printing technology can significantly reduce the cost of construction because of savings in time, materials and labor, among other factors.

Adrian Sinclair, co-founder of Starsand Technologies, an angel investor who also is a civilian innovator at YokoWerx, an Air Force innovation lab, saw the potential for the technology to work in Guam.

Sinclair partnered with Starsand Technologies co-founder Ann Dela Cruz, a Guam native, Army veteran and real estate businesswoman who came back to the island after having been away for 25 years. Called home to help with her family's business succession, she got drawn to helping find an affordable housing solution for Guam residents.

"I found myself asking this question: Is it possible that additive construction, which is a fancy term for 3D concrete printing, can be a solution to our affordable housing crisis? And if so, what are the next steps?" Dela Cruz said. Community engagement was one of them.

Dela Cruz had a meeting with Dr. Pamela Peralta, UOG Interim Vice Provost, Research and Sponsored Programs, which led to the University hosting the roundtable.

There are issues to overcome, including convincing banks and other lenders, home insurance companies and government regulators, according to affordable housing proponents at the roundtable.

Proponents of affordable housing expressed optimism that further community discussions will lead to resolving the challenges.

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Photo caption:

2023-roundtable1

Starsand Technologies co-founder Ann Dela Cruz, a native of Guam, speaks at the discussion on 3D Printing Concrete as an affordable solution to Guam's housing needs. More than 100 people attended the roundtable on November 7, 2023, at the School of Business and Public Administration, University of Guam.

2023-roundtable2

The University of Guam hosts a roundtable about 3D Printing as a solution to Guam's affordable housing challenge. Industry experts on 3D printing concrete houses were featured at the roundtable on November 13, 2023. Speaking is Dr. Ernesto Guades, Assistant Professor at the School of Engineering, who discussed initial research at UOG to recycle demolished concrete into sand and gravel for pavements and other non-structural uses.