Sun's rays fuel bright idea for cleaner drinking water

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Jerrycans ? 20-liter plastic containers ubiquitous in third-world countries ? are a favorite for relief organizations because they're so versatile for storing water or fuel and easily transportable. What if they could be adapted to work double-duty as a cheap disinfection device in areas with scant access to clean water? A medical student and a graduate student at Tulane University have a novel idea.

Medical student Olivia Chang teams up with engineering grad student Alex Girau to develop a plastic container that uses solar energy to purify drinking water. (Photo by Theodore Pei)

It's an idea that third-year medical student Olivia Chang came up with while working for a relief agency in Tanzania in east Africa. Since then, she's teamed up with Alex Girau in the School of Science and Engineering to develop SODI-CAN, a plastic container that uses solar energy to disinfect water. The venture won $5,000 last year in the Tulane School of Medicine's inaugural Medical Science Innovation Challenge and it is one of three finalists competing for $50,000 in the Tulane Business Plan Competition.

SODI-CAN uses a proprietary coating inside the container to enhance the sun's ability to heat up water to kill germs and bacteria. Depending on the time and season, it can take anywhere from a few minutes or hours in the sun to work, Chang said.

“At 135 degrees Fahrenheit, most pathogens can be killed within minutes,” Chang says. “The longer the exposure and the higher the temperature eliminate even more bacteria and viruses.”

Chang and Girau are planning to use any prize money to develop prototypes to test the product in New Orleans. The venture is also a finalist in the Jumo Welcome to the Good Challenge. Online voting for the contest runs through April 15. Ultimately, Chang has very high goals for SODI-CAN, hoping that one day they will replace jerrycans across the globe.

The Tulane Business Plan Competition takes place from 8:30 a.m. until 2:30 p.m. on Friday (April 13) in Goldring/Woldenberg Hall II on the uptown campus. Other finalists include medical device firm Calcula from Stanford University and pharmaceutical venture EpiQi Sciences from Brigham Young University.