Researchers Develop a Self-Filling Water Bottle that Harvests Water from the Air

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Scientist Deckard Sorensen used nanotechnology to create a vessel that mimics the water collection and storage capabilities of the Namib desert beetle.

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By Kecia Lynn

What's the Latest Development?

Deckard Sorensen, a scientist and co-founder of NBD Nano, has created a prototype of a bottle that fills itself up by collecting water from the surrounding atmosphere. The water comes when air from a fan passes over a surface layered with nanoscale water-attracting and water-repelling coatings. Until now all tests have been done with solar cells and a rechargeable battery, but even that might not be necessary in order for the technology to work: Anything that moves fast enough to create an airflow -- "a car or a boat, or even a running human" -- could cause water to condense on the surface.

What's the Big Idea?

Sorensen got the idea from observing the Namib desert beetle, which lives in a habitat that receives less than half an inch of water a year. To get its water, the beetle climbs to the top of a dune and turns its back, which contains water-attracting areas, to the wind. In addition to providing water to people in need, the technology could be used in a variety of applications, according to Sorensen: Greenhouses and green roofs could enhance their water-drawing abilities, and large ships could generate their own drinking water supply. In the meantime, he hopes to bring the water bottle to the public by 2014.