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 SCIENCE

## This Super-Tiny Windmill Could Someday Charge Your Phone

ROBERT SOROKANICH 12 JANUARY 2014 6:00 PM

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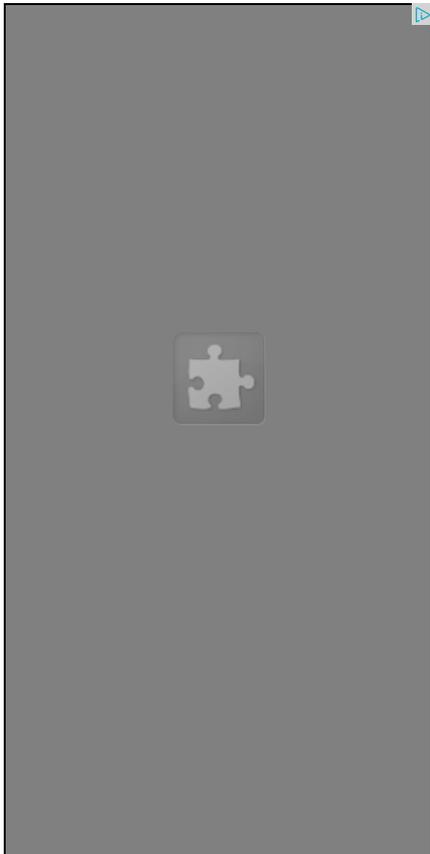


Researchers at the University of Texas at Arlington have come up with a way to build a nickel alloy windmill so small, 10 of them could be mounted on a grain of rice. And if all goes as planned, hundreds of the little things could end up in a case that charges up your smartphone.

UT Arlington's [Smitha Rao](#) and [J.-C. Chiao](#) designed the windmill, which at its broadest is just 1.8mm wide. Built from nickel alloy for rigidity, the little fan is self-assembled using wafer-scale semiconductor electroplating principles and a technique the team likens to origami. Rao and Chiao have partnered with [WinMEMS Technologies Co.](#), a Taiwanese company researching ways to build micro electro-mechanical systems, to bring the baby windmill to reality.

"Imagine that they can be cheaply made on the surfaces of portable electronics," [Chiao said](#), "so you can place them on a sleeve for your smart phone. When the phone is out of battery power, all you need to do is to put on the sleeve, wave the phone in the air for a few minutes and you can use the phone again." Maybe she could design a case that aims the windmills below the user's chin, so you could [charge up your phone simply by talking on it](#). [[University of Texas at Arlington](#) via [Engadget](#)]

Image: [University of Texas at Arlington](#)



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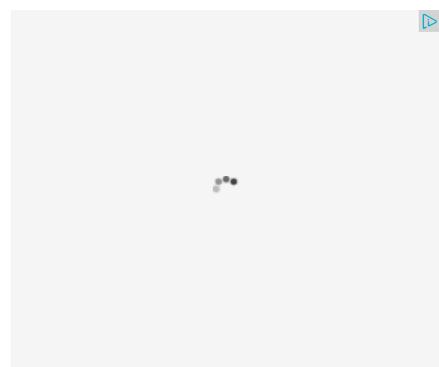
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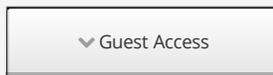
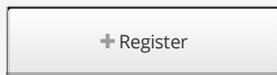


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