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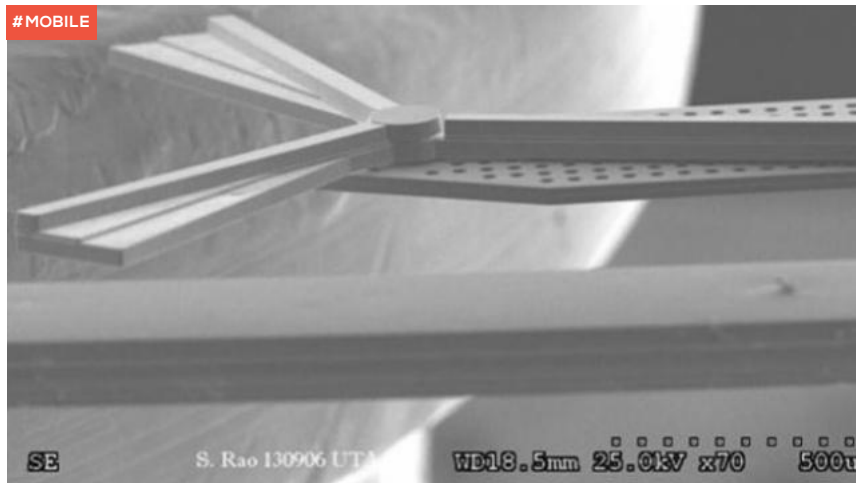
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Scientists build tiny windmills to power mobile phones

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Micro-windmills to power your mobile devices

By Naina Khedekar / 13 Jan 2014, 17:26

A team of researchers at the **University of Texas Arlington** has developed tiny windmills that can power your mobile phone. Designed and built by Smitha Rao and J.-C. Chiao, these windmills are extremely tiny with 1.8 mm at their widest point. In fact, a single grain of rice can hold about 10 such windmills.

If hundreds of such windmills are embedded in a sleeve for a cell phone, they can help fuel a device by generating electricity that can be collected by the battery of the phone. Wind – to help fuel the device – can be created by simply waving your hand, holding the device up to an open window on a windy day, and so on. The windmills operate under strong artificial winds without any fracture in the material because of the durable nickel alloy and smart aerodynamic design.

Taiwanese fabrication company WinMEMS now has exclusive rights to commercialise the concept. It has already started testing the technology. Rao's designs of the windmill transform origami concepts into conventional wafer-scale semiconductor device layouts, allowing complex 3-D moveable mechanical structures to be self-assembled from two-dimensional metal pieces. They use planar multilayer electroplating techniques that have been optimized by WinMEMS Technologies.

"It's very gratifying to first be noticed by an international company and second to work on something like this where you can see immediately how it might be used," said Rao, who earned her Ph.D in 2009 at UT Arlington. "However, I think we've only scratched the surface on how these micro-windmills might be used."

Tags: tiny windmills, University of Texas Arlington, windmills, windmills power phone

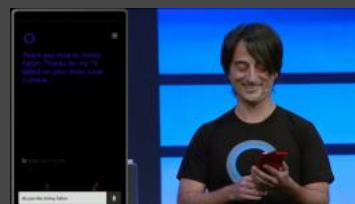
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