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UT Arlington Researchers Use Micro-Windmills to Charge Batteries

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By Patrick Osborn, Evening News Anchor



A combined effort between a research associate and a professor of electrical engineering at the University of Texas at Arlington has brought forth a tiny tool which could prove to be a mighty ally in this modern-era of energy conscious consumers.

Smitha Rao and J.C. Chiao have designed and built a micro-windmill capable of generaing wind energy, and according to the university, the new tiny tool may become an innovative solution to charging a cell phone battery. It is also believed that the micro-windmills could one day assist in home energy generation where large windmills are not available.

The word "micro" has never been more apropos. To put the size of the micro-windmill into perspective, one single grain of rice is large enough to hold roughly ten of them. This means hundreds of the windmills could be embedded in a sleeve for a cell phone, and wind created by



An actual micro-windmill sits atop a penny. (Credit: University of Texas at Arlington)

waving the cell phone in the air, or holding it up to an open window on a windy day would generate enough electricity to charge the cell phone's battery.

The technology is still at a very early stage in its development, and there are still plenty of questions surrounding the possibility of it ever actually seeing mass market production. However, researchers say the technology has already drawn the interest of Taiwan-based company WinMEMS, which has agreed to commercialize the micro-windmills. WinMEMS has been showcasing UT Arlington's works on its website and in public presentations, which include the micro-windmills, gears, inductors, pop-up switches and grippers – all of which are a fraction of the diameter of a human hair.

Chiao says flat panels with thousands of windmills could be made and mounted on the walls of homes or buildings to harvest energy for lighting, security, or environmental sensing and wireless communication. Chiao also says this sort of technological advancement is essential to build micro-robots which can be used as surgical tools, sensing machines to explore disaster zones, or manufacturing tools to assemble micro-machines.











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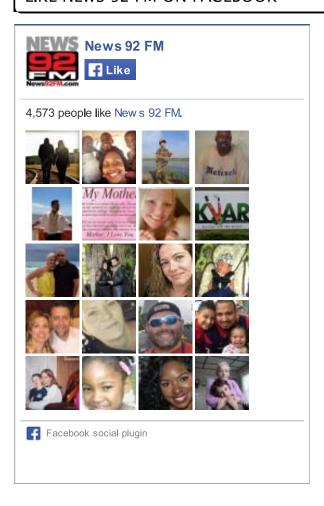
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