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Itsy-Bitsy Wind Turbines For Charging Your Phone

Earth Techling - *By Pete Danko* (January 13, 2014 4:17pm)

But does it pose a threat to some endangered gnat species? That was my first question about the micro-turbine wind power phone charger scheme out of the University of Texas-Arlington. But then I realized it isn't a hoax.

Which isn't to say it's soon coming to a gadget store near you, but researchers Smitha Rao and J.-C. Chiao are serious about their super-tiny wind turbines, made of an especially durable nickel alloy, so small a single grain of rice could hold ten of them, so small they can be embedded by the hundreds in a sleeve for a cell phone. Power is then generated, their press release declares, "by waving the cell phone in air or holding it up to an open window on a windy day." There's video:

And, whoa, what's this – for the second time in a month we have origami showing up in a renewable energy story?

Rao's designs blend origami concepts into conventional wafer-scale semiconductor device layouts so complex 3-D moveable mechanical structures can be self-assembled from two-dimensional metal pieces utilizing planar multilayer electroplating techniques that have been optimized by WinMEMS Technologies Co., the Taiwanese fabrication foundry that took an initial interest in Rao's work.

So what are the chances of this crazy technology actually coming to to fruition? Small, one would imagine – small, get it? – but according to UTA, "an agreement has been established for UT Arlington to hold the intellectual properties while WinMEMS explores the commercialization opportunities."

The researchers say that one thing they have going for them is that the micro-windmills could be made in batch processes. "The fabrication cost of making one device is the same as making hundreds or thousands on a single wafer, which enables for mass production of very inexpensive systems," they say.

The cell charger idea is just one possible use being floated. "Chiao said because of the small sizes, flat panels with thousand of windmills could be made and mounted on the walls of houses or building to harvest energy for lighting, security or environmental sensing and wireless communication."
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Original article can be found at:

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