

Login or Create an Account with

[Facebook \(/social-log](#)

[Google+ \(/social-login](#)

[Twitter \(/social-login/a](#)

Free Shipping

All Orders Over \$5.00 Ship For Free To The US. Most Orders Ship in 24 Hours!

Product Categories (/collections)

[Android \(/collections/android\)](#)

[Android Cables \(/collections/android-cables\)](#)

[Android Cases \(/collections/android-cases\)](#)

[Android Chargers \(/collections/android-chargers\)](#)

[Android Screen Protectors \(/collections/android-screen-protectors\)](#)

[Car Chargers \(/collections/car-chargers\)](#)

[Featured \(/collections/frontpage\)](#)

[iPad Air Cases \(/collections/ipad-air-cases\)](#)

[iPhone 5 Cases - Skins - Shells \(/collections/iphone-5-cases-skins-shells\)](#)

[iPhone 5 Chargers \(/collections/iphone-5-chargers\)](#)

[iPhone 5 Screen Protectors \(/collections/iphone-5-screen-protectors\)](#)

[LED Lighting \(/collections/led-lighting\)](#)

[Mac Cables \(/collections/mac-cables\)](#)

[Nexus 7 Cases \(/collections/nexus-7-cases\)](#)

[Stylus \(/collections/stylus\)](#)

[xbox one \(/collections/xbox-one\)](#)

[g+](#) [0](#)

Become a fan on Facebook
([http://www.facebook.com/cableandcase](#))



News (/blogs/news)

Teeny tiny windmills can recharge phones (/blogs/news/11532797-teeny-tiny-windmills-can-recharge-phones)

January 12, 2014

Researchers at the University of Texas, Arlington, have designed a microscopic windmill that, en masse, could be used to power mobile electronics.



One of the tiny windmills.

(Credit: University of Texas, Arlington)

A microscopic windmill could one day provide a portable method of charging devices: at just 1.8 millimetres at its widest point and able to fit 10 on a single grain of rice, the tiny machines can harvest energy from the movement of air.

They are the work of research associate Smitha Rao ([http://www.uta.edu/news/releases/2014/01/microwindmill-rao-chiao.php](#)) and electrical engineering professor J.-C. Chiao, who envision smartphone cases embedded with hundreds of windmills, which could charge the phone therein just by waving it through the air, or holding it by an open window on a windy day.

The windmills were crafted using origami techniques that allow two-dimensional shapes to be electroplated on a flat plane, then self-assembled into 3D moving mechanical structures. They're made of a durable, flexible nickel alloy that can stand up to strong winds without fracturing, helped by a minimal, aerodynamic design.

Rao and Chiao created the windmill for a Taiwanese superconductor company called WinMEMS ([http://www.winmemstech.com/en/index/](#)), which developed the fabrication techniques and was interested in Rao based on her work in micro-robotics.

"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. "However, I think we've only scratched the surface on how these micro-windmills

Recent Posts

[Ajay Agarwal's Maxx Mobile is a multi-crore brand in a decade \(/blogs/news/11551585-ajay-agarwals-maxx-mobile-is-a-multi-crore-brand-in-a-decade\)](#)

[Forgot Your Smartphone Charger? Avis and Budget Now Have You Covered \(/blogs/news/11551581-forgot-your-smartphone-charger-avis-and-budget-now-have-you-covered\)](#)

[Ajay Agarwal's Maxx Mobile is a multi-crore brand in a decade \(/blogs/news/11532801-ajay-agarwals-maxx-mobile-is-a-multi-crore-brand-in-a-decade\)](#)

[Teeny tiny windmills can recharge phones \(/blogs/news/11532797-teeny-tiny-windmills-can-recharge-phones\)](#)

[In "smart" homes, Internet-connected gadgets abound \(/blogs/news/11510797-in-smart-homes-internet-connected-gadgets-abound\)](#)

[Cell Phone Radiation Protection - Voodoo or Real Science \(/blogs/news/11497329-cell-phone-radiation-protection-voodoo-or-real-science\)](#)

[Cell Phone Radiation Protection - Voodoo or Real Science \(/blogs/news/11486153-cell-phone-radiation-protection-voodoo-or-real-science\)](#)

[CES 2014: Top 5 phones, tablets and accessories \(/blogs/news/11477885-ces-2014-top-5-phones-tablets-and-accessories\)](#)

[CES 2014: Phones morph into 'stun guns' and 'tricorders' \(/blogs/news/11465609-ces-2014-phones-morph-into-stun-guns-and-tricorders\)](#)



(//verify.authorize.net/anetseal/?
pid=2e8cf1e9-c037-
475e-adc6-
63dc5fdcb946&rurl=http%3A//www.cableandcase.com/blogs/news/11532797-
teeny-tiny-windmills-
can-recharge-phones)
Payment Processing
(http://www.authorize.net/)



(https://www.paypal.com/us/verified/pal=payments%40iphoneshop%2enet)
Loading Activity...

might be used."

Chiao added that perhaps the windmills could be crafted into panels of thousands, which could then be attached to the sides of buildings to harvest wind energy for lighting, security or wireless communication.

Written by Michelle Starr

[Activ8 storms high street with accessories and repair stores](#)
(/blogs/news/11439417-activ8-storms-high-street-with-accessories-and-repair-stores)

[Subscribe via RSS](#)
(/blogs/news.atom)

All orders over \$5.00 ship free to the US. ©
2013 TechVine LLC / Cable and Case. All
Rights Reserved.



Cable and Case is [Upfront](#)
(http://www.thefind.com/store/about-cableandcase)

Ecommerce Softw are by [Shopify](#)
(http://www.shopify.com)

Join our Mailing List

Email address:

Join

PAYMENT METHODS WE ACCEPT



These are real reviews from real shoppers

x

- [Site Reviews](#)
- [Product Reviews](#)
- 0 Reviews ★★★★★
- Be the first to leave a review for <http://www.cableandcase.com>!



[Like](#) 10k [+1](#)

You

Write your review title here

★★★★★

Write your review here!

Connect with

- https://api.yotpo.com/oauth/authorize?response_type=code&client_id=d8pXUzUaQggLp5zEZQqpRbvethDOG5rlxg1ortlN&redirect_uri=http%3A%2F%2Fwidget.yotpo.com%2Fsign_in&network=facebook
- https://api.yotpo.com/oauth/authorize?response_type=code&client_id=d8pXUzUaQggLp5zEZQqpRbvethDOG5rlxg1ortlN&redirect_uri=http%3A%2F%2Fwidget.yotpo.com%2Fsign_in&network=twitter
- https://api.yotpo.com/oauth/authorize?response_type=code&client_id=d8pXUzUaQggLp5zEZQqpRbvethDOG5rlxg1ortlN&redirect_uri=http%3A%2F%2Fwidget.yotpo.com%2Fsign_in&network=linkedin
- https://api.yotpo.com/oauth/authorize?response_type=code&client_id=d8pXUzUaQggLp5zEZQqpRbvethDOG5rlxg1ortlN&redirect_uri=http%3A%2F%2Fwidget.yotpo.com%2Fsign_in&network=google_oauth2

or

Use your name

Enter your name

Enter your email address:

Post

- 146 Reviews ★★★★★



• <http://www.yotpo.com/user/jackie-a-5?ref=widget> Jackie A. (<http://www.yotpo.com/user/jackie-a-5?ref=widget>)
What I needed!



I have already enjoyed using these with my iPhone, iPad, and kindle touch! Thanks for your prompt delivery!

- 2014-02-01
- On [Stylus - Touch Screen iPhone iPad Stylus Pen](https://yotpo.com/go/kPVOqbFX) (<https://yotpo.com/go/kPVOqbFX>)
- [Q](#)
- [Q](#)



• <http://www.yotpo.com/user/ed-d-6?ref=widget> Ed D. (<http://www.yotpo.com/user/ed-d-6?ref=widget>)
Ed D



Exactly what I expected. Work perfectly and delivered on time.

- 2014-01-31
- On [Stylus - Touch Screen iPhone iPad Stylus Pen](https://yotpo.com/go/kPVOqbFX) (<https://yotpo.com/go/kPVOqbFX>)
- [Q](#)
- [Q](#)



• <http://www.yotpo.com/user/denzil-h?ref=widget> Denzil H. (<http://www.yotpo.com/user/denzil-h?ref=widget>)
Micro USB Cable / Kindle Fire



I got this for my Kindle Fire, work like advertise on the web site.

- 2014-01-28
- On [Micro USB Cable / Cord For Android / Kindle Fire / Blackberry](https://yotpo.com/go/ox0UxG1z) (<https://yotpo.com/go/ox0UxG1z>)
- [Q](#)
- [Q](#)



• <http://www.yotpo.com/user/neal-o?ref=widget> Neal O. (<http://www.yotpo.com/user/neal-o?ref=widget>)
bad



Have not received my order from 12/22/13 yet

- 2014-01-26
- On [Incipio iPhone 4 Double Cover Case - Black / Black: AIP4IDCBLK](https://yotpo.com/go/4ffM4jW) (<https://yotpo.com/go/4ffM4jW>)
- [Q](#)
- [Q](#)



• <http://www.yotpo.com/user/john-c-217?ref=widget> John C. (<http://www.yotpo.com/user/john-c-217?ref=widget>)
Quick and easy



Perfect replacement cable for one that was accidentally chewed up.

- 2014-01-22
- On [Multi-Color Micro USB Cable / Cord For Android / Kindle Fire / Blackberry](https://yotpo.com/go/7fkjKlx) (<https://yotpo.com/go/7fkjKlx>)
- [Q](#)
- [Q](#)

- •
- 2
- •
- 3
- •
- 4
- •
- 5
- •
- 6
- •
- 7
- •
- 8
- •
- 9
- •
- 10
- •
- 11
- •
-

Write Site ReviewWrite Product Review

Reviews by YOTPO (https://www.yotpo.com/landing_page?utm_source=Testimonials&utm_medium=Testimonials&utm_campaign=PoweredBy&redirect=http://lp.yotpo.com/free-review-app.html)