

[Stories](#)[Media](#)[Contributors](#)[People](#)[More](#)[Login](#)[Join](#)[Help](#)[Report New Story](#) Add to This Story: [Related Image](#) [Related Video](#) [Related Story](#) Add to This Person: [Related Image](#)[Related Video](#) [Related Story](#)[Edit Profile](#) [Inbox](#) [Help](#) [Logout](#)



Once you've got it,
YOU GET IT.

Experience the difference of
America's fastest* Internet.

[Learn More](#)

*Reprinted from www.pcmag.com with permission © 2013 Ziff Davis, Inc. All Rights Reserved

New technology could power smartphones with tiny windmills

[Arlington](#) : [TX](#) : [USA](#) | Jan 13, 2014 at 3:48 PM PST

By [Joe Kukura](#)

[4](#) [0](#)

Views: 10,918

1 of 1

An actual micro-windmill from UT-Arlington, held against a penny.

[Electronics](#) manufacturers have been pursuing the idea of a "self-recharging" smart phone for a few years, but most of these efforts have been just chasing windmills. But by [using actual windmills](#) of tiny microscopic sizes a group of researchers at the University of Texas at Arlington thinks they've developed the self-recharging phone. Their work is promising enough that WinMEMS Technologies, a Taiwanese metallic fabrication company, has already snatched up the commercial rights, and someday we may charge our cellphones just by holding them up outdoors.

The photograph above is an actual image of one of these tiny windmills, and they do indeed work. The micro-windmills measure 1.8 millimeters at their widest point, and 10 of them could fit on a single grain of rice. Thousands of them could fit on a cell phone casing, providing a promising new green energy source for smartphones and numerous other devices.

The micro-windmills are the inventions of UT electrical engineering professor J.-C. Chiao and research associate Smitha Rao,

"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 co-developer Smitha Rao. "However, I think we've only scratched the surface on how these micro-windmills might be used."

While consumers would surely go for wind-powered cell phones that recharge themselves, smartphone manufacturers have other incentives too. The cell phone batteries we currently dispose contain [all manner of toxic chemicals](#) that constitute hazardous waste.

The micro-windmills have been successfully tested, and they do indeed work. They're made of incredibly strong nickel

alloy, and the cost of making one is virtually the same cost as making a thousand of them.

Co-developer Dr. Chiao estimates that 2,040 of the tiny windmills could fit on the back of an iPhone.

"Imagine that they can be cheaply made on the surfaces of portable electronics," Dr. 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, shake the phone in the air for a few minutes and you can use the phone again."

micro-windmills could also be used in larger numbers to power household energy or security. But if they can just power our smartphone batteries from dying, these little windmills will have a lot of fans.

Kukura is based in San Francisco, California, United States of America, and is an Anchor for Allvoices. Port Credibility

13

Like

2

Tweet

2

g+1

• Share:

1


1



Tweet

2

Like Share 13 people like this. [Sign Up](#) to see what your friends like.

- 12
- Credibility
 - [Reach](#)
 - 

READ MORE: [wind power](#), [Windmill](#), [mobile phone](#), [technology-news](#), [electronics](#), [technology-news](#), [green energy](#), [green tech](#)
More News From: [Arlington](#) : [TX](#) : [USA](#)

Sponsored From Around the Web



Is This the Hottest Trend in Engagement Rings?



That's What She Said: 25 for XLVIII



Aircraft Carriers Are the Ultimate Weapons (of Peace)



Juan Pablo Was Absent From Sean Lowe & Catherine's Wedding for...



10 of The Tackiest Celebs EVER!



PHOTOS: RHOM's Adriana and Frederic's Wedding Album



33 Celebrities Who Have Killed People



Bronx Man Dies In Emergency Room After Waiting 8 Hours [PHOTOS]



Wendy Williams' Bikini Pic Will Leave You Speechless



Super Bowl Snacks

More from the web

- [Amanda Knox Puts Authorities on High Alert With Latest Statement \(VIDEO\)](#) (Articles in the News)
- [Is This the Hottest Trend in Engagement Rings?](#) (Brides.com)
- [Guy Fieri Lamborghini Thief Sentenced to Possible Life in Prison](#) (E! Online)
- [Prisoner Sent to Solitary for Having "Copious Amounts of Anarchist Publications"](#) (Vice)
- [10 Unsafe US Cities Not Worth Visiting](#) (EscapeHere)
- [Mom Kills 2 Young Daughters After Fiance Dumps Her](#) (Articles in the News)

More from Allvoices

- [Five years of obstruction only making things worse](#)
- [\[UPDATED\] 2 attackers named in Showtime host Vhong Navarro's mauling in Fort Bonifacio](#)
- [Ryanair plane to Paris looted by angry passengers](#)
- [Police Identified Maryland Mall Shooter as Darion Marcus Aguilar \(Photos \)](#)
- [49ers Billboard in Seattle sabotage Seahawks fans photobomb \(Video\)](#)
- [Karzai says either US restart talks with Taliban or leave Afghanistan](#)

Recommended by

[Post a Comment](#) [Comments: 3](#)

[Reply](#)



Posted By [chnarendra](#) | 15 days ago

affordable technologies need come to rescue of the people to put an end to energy crisis.

[Reply](#)



Posted By [Rob Lafferty](#) | 15 days ago

That's pretty amazing, thanks for posting this. Micro-manufacturing is farther along than I realized...

Enter your comment below

[Add Your Comment](#)

Advertisement



News Stories

- [**Mobiles phones powered by WIND TURBINES: 'Micro-windmills' could be fitted**](#)

...

Mail Online UK

13 January 2014 17 shares 15 View comments Forget hand-cranked chargers and solar-powered cases, the latest way to solve the ever-present problem of a dying phone battery is by using thin air. Researchers from Texas have developed a miniscule micro-...

- [**Now, 'micro-windmills' to power your cellphone**](#)

NewKerala

The windmills created by the researchers at the University of Texas Arlington (UTA) are so tiny that ten of them can fit on one grain of rice, the Verge reported...Chiao, if a hundred of them were glued onto a cell phone case and held out of the...

- [**Micro windmills may soon recharge your mobile phone**](#)

GMA News

Tiny windmills might not be the energy crisis panacea you had in mind, but thinking outside the box will very likely get us there," it added.

- [**'Micro-windmills' could charge cellphones, inventors say**](#)

Canadian Broadcasting Corporation

ET A 'micro-windmill' designed by researchers with the University of Texas at Arlington is shown on top of a penny. The device's designers say the windmills could be used in the future to charge cellphones or power homes. (University of Texas at...

Blogs

>

- [Researchers Develop Micro-Windmills to Recharge Cell Phones](#)

www.sciencespacerobots.com

Researchers have create micro-windmills to recharge cell phones.

- [midosm | Micro-windmills may power your next smartphone](#)

midosm.com

Micro-windmills may power your next smartphone. Two researchers from University of Texas Arlington have created a micro-windmill, which could be used to power our mobile electronic devices in an environmentally friendly way. Read more ...

- [Tiny windmills could power future smartphones \(maybe\) - Liliputing](#)

liliputing.com

Mobile device makers have a few options for improving battery life. They can cram huge batteries into phones and tablets. They can improve the efficiency of ... Some companies already offer solar-powered smartphone cases, but fully recharging your

- [World's smallest windmills to power cell phones - Gizmag](#)

www.gizmag.com

Professor J.C. Chiao and his postdoc Dr. Smitha Rao of the University of Texas at Arlington have developed a MEMS-based nickel alloy windmill so small that ... World's smallest windmills to power cell phones. By Brian Dodson. January 13, 2014.

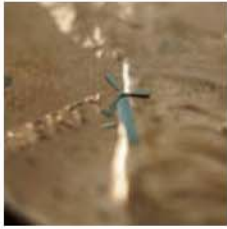
- [Researchers develop tiny windmills that can power your gadgets ...](#)

www.engadget.com

Portable solar chargers aren't so out of the ordinary anymore, but minuscule windmills that can charge your phones? Now, those are something new. A.

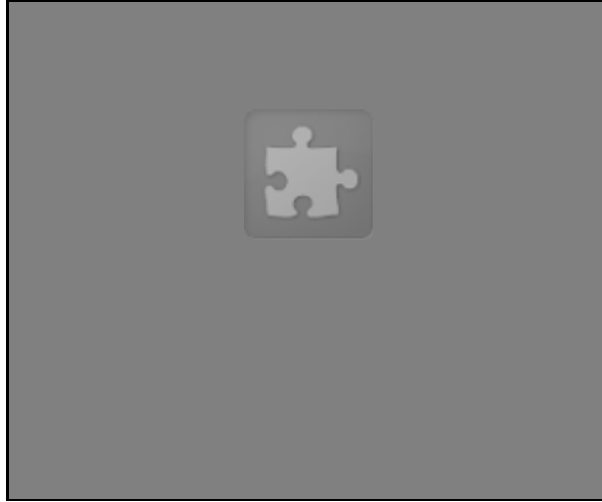
Images

>



[An actual micro-windmill from ...](#)

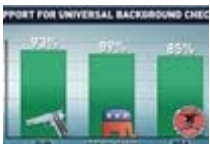
[More Related Images](#)



More From Allvoices



Nationals outfielder Bryce Harper may not be at 100 percent at the start of Spring Training



'Inconvenience' a silly reason to block background checks



Mother of Maryland mall shooter: 'He was never interested in guns before'



Russian teenager charged with possession of weapons of mass destruction

Cartoons of The Day

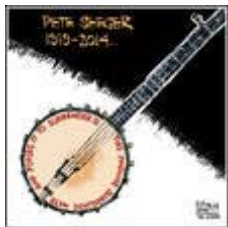
-



[State Of The Union Joke](#)



[His Brain](#)



[Pete Seeger 1919 2014](#)



[Obama State of the Union](#)

[See More Cartoons »](#)

Got a similar story?

Add it to the network!

Or add related content to this report

[News Stories](#) | [Images](#) | [Videos](#) | [Comments](#)

Most Viewed Reports

[In the end, it's up to the people to grab back power](#)

By: [CaliforniaMike](#) | 19 hours ago

-

[Penn State bomb arrest: Another student visa failure](#)

By: [FrancesStotter](#) | 12 hours ago

-

[Columbia mall shooting shows Glenn Beck was wrong – it's the gun, not ...](#)

By: [JTHOMASDIDYMUS](#) | 20 hours ago

-

[Republicans sink to new heights, rise to new depths about women](#)

By: [jackjprather](#) | 18 hours ago

-

[Afghans to release 37 detainees; US condemns move](#)

By: [plsmitha](#) | 11 hours ago

-

[Is this Heather Elvis text a hoax or not?](#)

By: [ChelseaHoffman](#) | 15 hours ago

-

[Finding Heather Elvis: Ignoring tattoos could hinder search](#)

By: [ChelseaHoffman](#) | 17 hours ago

-

[Vocabulary in your pocket](#)

By: [devid2011](#) | 4 hours ago

-

[Report: NSA has been hacking Angry Birds for years](#)


By: [JoeKukura](#) | 19 hours ago

-


[Super Bowl arts and crafts for kids](#)

By: [sweaver1213](#) | 16 hours ago



**Allvoices Writers**
Like

26,952 people like Allvoices Writers.



Facebook social plugin

Most Commented Reports

-

[Columbia mall shooting shows Glenn Beck was wrong – it's the gun, not ...](#)

By: [JTHOMASDIDYMUS](#) | 20 hours ago

-

[State Department recommends that Americans avoid Sochi thieves and ...](#)

By: [Nasarhayat](#) | 20 hours ago

-

[In the end, it's up to the people to grab back power](#)

By: [CaliforniaMike](#) | 19 hours ago

-

[US Internet firms reach compromise on spying data](#)

By: [maryamkhan](#) | 13 hours ago

-

[Three Republican senators offer Obamacare alternative](#)

By: [maryamkhan](#) | 13 hours ago

-

[Florida High Court Allow Medical Marijuana For Ballot](#)

By: [hina313](#) | 11 hours ago

-

[Ad For State Of The Union Watch Party Puts Obama's Head On Stalin's ...](#)

By: [neelamnaz47](#) | 11 hours ago

-

[Republicans sink to new heights, rise to new depths about women](#)

By: [jackjprather](#) | 18 hours ago

-

[In the U.S., 'Bank of Moscow' was fined nearly \\$ 10 million for the ...](#)

By: [Asif134](#) | 22 hours ago

-

[The United States launched a missile attack on Somalia](#)

By: [Asif134](#) | 22 hours ago

Contributor Report

- [News Stories: 4](#)
- [Blog Posts: 5](#)
- [Videos: 0](#)
- [Images: 1](#)
- [Comments: 3](#)



Use of this site is governed by our [Terms of Use Agreement](#) and [Privacy Policy](#).

© Allvoices, Inc. 2008-2014. All rights reserved. Powered by PulsePoint.

allvoices

▶ New technology could power smartphones with tiny windmills



An actual micro-windmill from UT-Arlington, held against a penny

Electronics manufacturers have been pursuing the idea of a "self-recharging" smart phone for a few years, but most of these efforts have been just chasing windmills. But by using actual windmills of tiny microscopic sizes, a group of researchers at the University of Texas at Arlington thinks they've developed the self-recharging phone. Their work is promising