



**The MICHELIN® Energy™ Saver A/S Tire**

- A quiet and smooth ride
- Up to 8% more fuel efficient to save you money
- Stops 8 feet shorter for added safety

Commute Smoother

**MICHELIN**  
A better way forward

[Our Networks](#)



Now includes video!

SEARCH



[tv-shows](#)

- [A Haunting](#)
- [Alaska Week](#)
- [American Loggers](#)
  - [Cash Cab](#)
  - [The Colony](#)
- [Deadliest Catch](#)
- [Destroyed in Seconds](#)
  - [The Detonators](#)
  - [Dirty Jobs](#)
  - [Doing DaVinci](#)
  - [How It's Made](#)
  - [Man Vs. Wild](#)
  - [MythBusters](#)
- [Nature's Most Amazing Events](#)
  - [Out Of Egypt](#)
  - [Out of the Wild](#)
    - [Pitchmen](#)
- [Prehistoric New York](#)
  - [Planet Earth](#)
  - [Raging Planet](#)
  - [Shark Week](#)
  - [Storm Chasers](#)
    - [Swords](#)
    - [Time Warp](#)
    - [Verminators](#)

[tv-schedules](#)

- [Daily TV Schedule](#)
- [Weekly TV Schedule](#)

[news](#)

- [Animals](#)
- [Archaeology](#)
- [Dinosaurs](#)
- [Human Animal](#)
  - [History](#)

- [Planet Earth](#)
  - [Space](#)
  - [Tech](#)

[video](#)

- [Screening Room](#)
- [Watch Full Episodes](#)
  - [Cash Cab](#)
  - [Deadliest Catch](#)
- [Destroyed In Seconds](#)
  - [Dirty Jobs](#)
- [Discovery News](#)
- [Feeding Frenzy](#)
- [Future Weapons](#)
  - [I Was Bitten](#)
  - [Man vs. Wild](#)
- [Moments of Impact](#)
  - [Mythbusters](#)
  - [Planet Earth](#)
- [Science of Sex Appeal](#)
  - [Shark Guide](#)
  - [Shark Week](#)
    - [Space](#)
  - [Storm Chasers](#)
  - [Survival Zone](#)
  - [Survivorman](#)
  - [Time Warp](#)
  - [Verminators](#)
- [When We Left Earth: NASA](#)

[games](#)

- [Game Central](#)
- [Interactive Central](#)
- [Puzzle Central](#)
- [Quiz Central](#)

[blogs](#)

- [Cosmic Ray](#)
- [Deadliest Catch](#)
- [Earth Impacts](#)
- [Everest Live 2009](#)
- [Field Expeditions](#)
  - [Free Space](#)
  - [Gorillas in Peril](#)
- [Icebreaker Expedition](#)
  - [Material World](#)
  - [Mike Rowe](#)
  - [Space Disco](#)
  - [Sustainable](#)
- [Twisted Physics](#)
- [Warped Science](#)

[explore by subject](#)

- [Animals](#)
- [Dinosaurs](#)
  - [Earth](#)
  - [Egypt](#)
  - [Green](#)
- [Global Warming](#)
  - [History](#)
  - [Sharks](#)
  - [Space](#)
- [Survival Zone](#)
- [Technology](#)

[newsletters](#)

- [Sign Up](#)

[shop](#)

- [DVDs & Books](#)
  - [Gift Sets](#)
  - [Telescopes](#)
- [Toys & Games](#)
- [Planet Earth DVD](#)
- [Ringtones & Wallpaper](#)
  - [Travel With Us](#)



# Flexible, Stretchable LEDs Promise Better Displays

[Share](#)

- [Yahoo](#)
  - [Feed](#)
- [StumbleUpon](#)
- [del.icio.us](#)
- [Myspace](#)

To email this article, type in your friend's name and email address, your name and email address, and a message. Then click "Send"

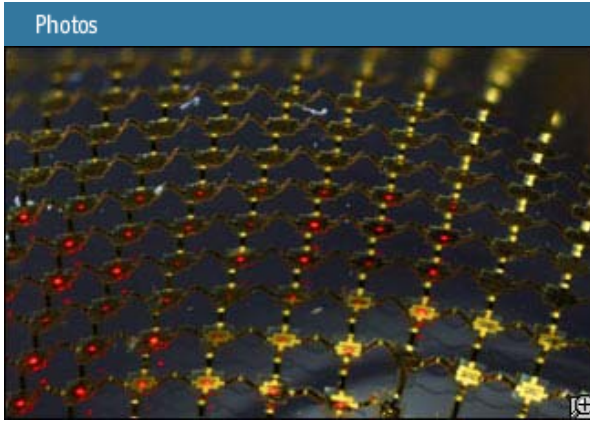
Eric Bland, Discovery News

**Friend's name:** \_\_\_\_\_

**Friend's email:** \_\_\_\_\_

**Your name:** \_\_\_\_\_

**Your email:** \_\_\_\_\_

**Optional  
Message:****Message**

Flexible and Stretchable | [Discovery News Video](#)

**Aug. 21, 2009** -- Bend it, twist it, roll it or stretch it, a new [light emitting diode](#), or LED, created by scientists will light up.

The new flexible and stretchable LEDs could be used in everything from bumper mounted brake lights to computer television screens that roll up into a pen.

"These new inorganic LEDs are so thin you can roll them up, bend them over, and it doesn't affect their operation" said John Rogers, a scientist at University of Illinois at Urbana-Champaign and co-author of the paper that appears in this week's issue of the journal *Science*.

The two varieties of LEDs, organic and inorganic, appear on everything from billboards to cell phones.

[Organic or carbon-based LEDs](#) are generally smaller and easier to manufacture, which is why they appear on cell phone screens. In general, inorganic LEDs are more difficult to create, needing higher temperatures and harder surfaces.



**[WATCH VIDEO: Television's gone from black and white to color to high definition. So is 3-D holographic next?](#)**

**Related Content:**

---

- [Improved Diode Lights Offer Bright Future](#)
- [Color-Shifting Cuttlefish Inspire TV Screens](#)
- [HowStuffWorks.com: LEDs](#)
- [More Discovery News](#)

---

Inorganic LEDs, however, tend to have higher performance than their organic counterparts. Inorganic LEDs are generally brighter and more efficient, which is why they are typically used in [traffic](#) lights, flashlights and outdoor electronic billboards.

"Think about a big billboard display made of (inorganic) LEDs," said Rodgers. "You can see the image clearly on a sunny day, but if you get close, you realize the individual LEDs are large and rather clunky."

The new inorganic LEDs don't have that issue. In fact, at 20 microns across and two microns tall, they are smaller than a 50-micron-diameter human hair. Using commercially available printing technology, scientists say the LEDs could be made five microns across.

That tiny size gives the LEDs a flexibility and stretchability that no inorganic LED has ever achieved.



[Next »](#) 21 « P

---

Ads by Google

- [1383 LED Elevator Lamp](#)  
Saves over \$22.00 in energy over incandescent 1383 light bulb  
[www.safetybulbs.com](http://www.safetybulbs.com)
- [Dazzling LED Rope Lights](#)  
Accent Patio, Deck w/Bright LED Rope Lighting. By the FT or Spool.  
[1000Bulbs.com/Rope-Lights/](http://1000Bulbs.com/Rope-Lights/)
- [Programmable LED Sign](#)  
Attract Customers for your Business High Quality 100% Customizable  
[www.eloofaimports.com/LED-Sign](http://www.eloofaimports.com/LED-Sign)
- [Vantaura LED Lighting](#)  
Save Energy - Improve Merchandising Refrigerated Case Lighting  
[www.vantauralighting.com](http://www.vantauralighting.com)

Get More News

 <p><b>Space Shuttle Discovery Blazes Through Night Sky</b></p> <p>After delays, space shuttle Discovery finally takes flight.</p> <p>1 <a href="#">Read Full Story</a></p>	 <p><b>Robofish Takes To Water</b></p> <p>These new small, robotic fish may one day help to monitor environmental hazards.</p> <p>2 <a href="#">Read Full Story</a></p>	 <p><b>African Tree Makes Soils Rich for Crops</b></p> <p>A close cousin of the acacia tree proves a valuable fertilizing tool for African farmers.</p> <p>3 <a href="#">Read Full Story</a></p>
--	--	--

SITE SEARCH

SEARCH

SUBSCRIBE TO OUR [NEWSLETTERS](#)

CREDITSD. Stevenson and C. Conway/ University of Illinois |

DISCOVERY [Discovery Channel](#) / [TLC](#) / [Animal Planet](#) / [Discovery Health](#) / [Science Channel](#) / [Planet  
SITES](#) [Green](#) / [Discovery Kids](#) / [Military Channel](#) /  
[Investigation Discovery](#) / [HD Theater](#) / [Turbo](#) / [FitTV](#) / [HowStuffWorks](#) / [TreeHugger](#) /  
[Petfinder](#) / [PetVideo](#) / [Discovery Education](#)  
VIDEO [Discovery Channel Video Player](#)  
SHOP [Discovery Store](#) / [DVDs & Books](#) / [Custom Gear](#) / [Toys & Games](#) / [Telescopes](#) / [Gift Sets](#) /  
[Planet Earth DVD Sets](#)  
MOBILE [iPhone App](#) / [Wallpaper & Ringtones](#) / [Mobile Video](#) / [Mobile Web](#) / [Text Alerts](#)  
CUSTOMER [Contact Us](#) / [Free Newsletters](#) / [RSS](#) / [Sitemap](#) / [TV FAQs](#)  
SERVICE  
CORPORATE [Discovery Communications, LLC](#) / [Advertising](#) / [Careers @ Discovery](#) / [Privacy Policy](#) /  
[Visitor Agreement](#)

ATTENTION! We recently updated our privacy policy. The changes are effective as of September 10, 2008. To see the new policy, [click here](#). Questions? See the policy for the contact information.

Copyright © 2009 Discovery Communications, LLC. The number-one nonfiction media company.