



Share:

Human World

Nanotechnology improves solar cell efficiency

Posted by  August 28, 2007

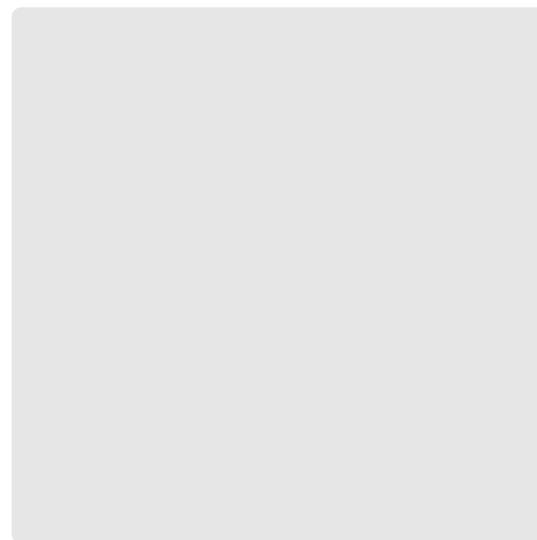
Scientists have long struggled to create a new kind of solar cell, one made of plastic that would be lightweight, flexible, and more efficient than the more familiar silicon solar cells.

And now they're getting closer. Earth & Sky spoke with David Carroll of Wake Forest University about his recent success using nanotechnology to improve the efficiency of plastic solar cells. He's developed a method to embed nano-sized balls of carbon known as "fullerenes" into light-absorbing plastic.

David Carroll: They look like a little soccer ball. They're made from carbon and they're less than a nanometer across and you disperse them in the plastic and then you manipulate them around as we have done.

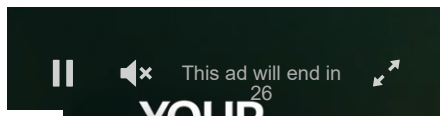
The fullerenes increase the efficiency of the plastic solar cell. Dr. Carroll explained that the goal is to make the plastic absorb a wider range of the sun's energy.

Tonight



Draconid meteor shower 2024: All you need to know





David Carroll: Silicon can absorb the higher energy photons, but plastics don't do as well. And so what you have to do is you have to put something in the plastic to help do the absorption of the photon, like the fullerenes are doing, but you want to kind of capture more of the high energy and low energy photons. What we say is that we're trying to increase the spectral overlap with the sun.

In other words, the new plastic solar cells can absorb more of the colors of the rainbow, so they're more efficient.

Thanks today to the National Science Foundation.

Our thanks to David Carroll.

David Carroll is Associate Professor in the Department of Physics at Wake Forest University in Winston-Salem, North Carolina.

Posted August 28, 2007 in **Human World**

**Like what you read?
Subscribe and receive daily news
delivered to your inbox.**

Email Address

Subscribe

Your email address will only be used for EarthSky content.
[Privacy Policy](#)

More from Editors of EarthSky

[VIEW ALL](#) [>](#)

Annular Solar Eclipse Today! See A Ring Of Fire

 October 2, 2024

October Birthstone: Colorful Opal And Tourmaline

 October 1, 2024

Meteor Shower Guide 2024: The Draconids Best Around Oct 7

 October 1, 2024

LIVE MONDAY: SpaceX And Space Race 2.0 With Eric Berger

 September 30, 2024

Comments



Twitter



Facebook



Instagram



Store



Donate



Subscribe

