



CNET tech sites: [Product reviews](#) | [Shop](#) | [Tech news](#) |

[Daily podcast](#) | [Hot topics](#) | [E-mail alerts](#) | [News.co](#)

Track thousands of Web sites in one place: [Newsburst](#)

SEARCH ADV SEA

Enterprise Hardware >> R&D

## Nanotech researchers build brawny molecules



Published: September 7, 2005, 7:21 AM PDT

By Reuters



**A breakthrough in nanotechnology could hasten the development of molecular machines that can act as artificial muscles or drug delivery systems in the body.**

Chemists at Scotland's Edinburgh University said Wednesday they have built molecules that can move objects larger than the size of an atom in an advance in the technology that deals with manipulating materials on a minuscule scale.

"Although man's understanding of how to build and control molecular machines is still at an early stage, nanoscale science and engineering could have a life-enhancing impact on human society comparable in extent to that of electricity, the steam engine, the transistor and the Internet," Professor David Leigh told a science conference.

The chemists used **ultraviolet light** to stimulate the human-made molecules to propel small droplets of liquid across flat and sloped surfaces.

The achievement, according to the researchers, is equivalent to a conventional machine lifting an object to more than twice the height of the world's tallest building.

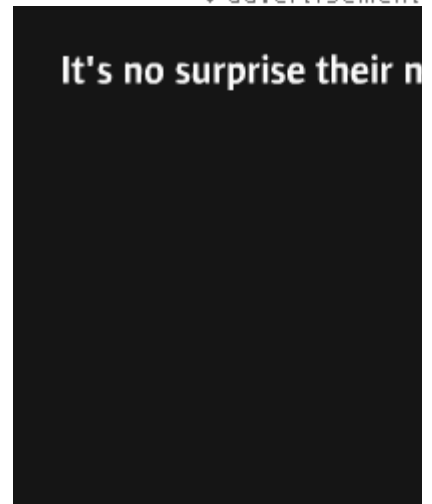
"It is only a very small droplet and it only moves a millimeter. But in terms of extrapolation of length scales, this is huge," Leigh told the British Association science conference.

Nature uses molecular machines to perform all biological functions from moving muscles in the body to photosynthesis. Scientists are trying to unravel its secrets.

"When we learn to do the same, we really will have materials that today just sound like science fiction," he added.

The technology involves altering matter on an incredibly tiny scale--a billionth of a meter, or about 80,000 times smaller than the thickness of a human hair.

**Nanotechnology** is already being used in cosmetics, **computer chips**, sunscreens, self-cleaning windows and stain-resistant clothing.



R&D resource center  
from News.com sponsored

**Intel's multi-core processor engines that will fuel enterprise platforms**

**Intel Has Double Vision: First multi-production begins**  
[Read More](#)

**Multi-core processor capability is of Intel's approach**  
[Free White Paper](#)

**Improved application with higher storage I/O performance**  
[Read More](#)

**Hyper-Threading Technology for Server**  
[Read More](#)

**Intel's Roadmap for Multi-Core Processors**  
[Read More](#)



Innovative, end-to-end 64-bit platform solutions

[Today in News.com Extra](#)

Researchers predict the technology could lead to more powerful computers, very light but strong materials, advanced medical techniques and longer lasting, more effective medicines.

Leigh and his colleagues, whose work is published in the journal Nature Materials, said the ultraviolet light causes a chemical reaction to occur that drives the droplets of liquid.

The movement is tiny but it represents a large step forward because scientists are just beginning to learn to make machines with artificial molecules.

Story Copyright © 2005 Reuters Limited. All rights reserved.



**Track this story's companies and topics**

Nanotechnology [Create alert](#)  
 Europe [Create alert](#)  
 Create your own e-mail alert >

**Related stories**

- [Making paper waterproof--and writable](#)  
August 9, 2005
- [In building nanotube chips, see what sticks?](#)  
August 1, 2005
- [Group aims to play nanotech nanny](#)  
June 21, 2005
- [Nanotech company aims to put paint in the past](#)  
April 10, 2005
- [Nanotech golf ball corrects its own flight](#)  
November 19, 2004

[Get this story's "Big Picture" >](#)

**From News.com Extra**

- [Nanotech Moves Closer to Cure](#) from Wired News
  - [Nanotech advances need more safety screening-study](#) from Reuters
  - [Lecture sings praises of nanotech](#) from BBC News
- [Get more news around the Web with News.com Extra >](#)

**Popular white papers**

- [Email Policies: A CEO Perspective](#) (Webcast)  
Proofpoint
- [Executive Interview – Why VoIP is Compelling for Enterprise Communications](#)  
Intel
- [User Interface Technology Choice for Web Deployed J2EE Applications](#)  
Oracle
- [Best Practices in Messaging Security: Managing email security policy and regulatory compliance requirements](#)  
Proofpoint
- [Database Administration Challenges are Shifting](#)  
Forrester Research
- [The OSS Guide for Telecom Service Providers and ISPs](#)  
BWCS

[More White Papers >](#)

**On security, is Oracle the next Also: Deutsche Telekom confir T-Mobile.**

Re

**Top picks from News.com**

Readers who read **Nanotech res build brawny molecules** also re  
[Deep Impact finds a fragile, empty](#)  
[Powering a new generation of ca](#)  
[Intel: Friend or foe?](#)

**THE PULSE** Most popular hea

- | [Hacking's a snap in Legoland](#)
  - | [Xbox 360 to hit shelves before T](#)
  - | [Microsoft offers development to](#)  
Web
  - | [Virtual goods, real scams](#)
  - | [iTunes upgrade has users gripin](#)
- Also: Most discussed and e-mailed st**

**Latest headline**

- | [The copyright challenge in Chin:](#)
- | [IBM starts shipping latest mainfr](#)  
computers
- | [Gates on Oracle and Siebel: 'Yo](#)
- | [Rings, cameras--now sex is late](#)  
feature
- | [Centennial mulling possible sale](#)
- | [iPod's law: The impossible is po](#)
- | [Sony says new Walkman is an i](#)
- | [For gamers, there's a 'There' the](#)
- | [Plan lets users be the judge of fl](#)
- | [PDC 2005: Rallying point for Re](#)
- | [IBM to help employees become](#)
- | [RFID chips used to track dead a](#)
- | [Big retail names line up behind](#)  
site
- | [Semel pitches Yahoo's program](#)
- | [IDG pulls plug on Macworld Bos](#)

**Latest Photo Galle**

- | [Photos: Microsoft's snapshot er:](#)
- | [Photos: Key to Nintendo's Revo](#)
- | [Photo: Making virtual rounds](#)

**Today in NEWS.BLOG**

**Apple: Nano-Nano, new iPod acc**

**TalkBack**

**Post a comment**

No discussion exists, [click here to start it.](#)

**Sponsored Links**

**Carbon Nanotechnologies**

Buckytubes: CNI@ Carbon Nanotubes SWNT, DWNT & Application Grades  
[www.cnanotech.com](http://www.cnanotech.com)

**Arcturus Veritas LCM**

Laser capture and UV laser cutting integrated in one unique system.  
[www.arctur.com](http://www.arctur.com)

**Polymer Characterization**

Weight, Size, IV, Structure & More! GPC/SEC Technology. Learn More  
[www.viscotek.com](http://www.viscotek.com)

**Coop's Corner:** IBM leads. Now v  
**Gadgets:** Step into the illumineatc  
**Science:** Plague mice on the lam  
**Processors:** Kilroy is here for Inte  
[Read all News.com's tech blogs](#)

**► This week's headlines**

▼ advertisement



**CNET NEWSLETTERS**  
CLICK ON A TITLE BELOW TO LE

- News.com Morning Dispatch sample
- News.com Afternoon Dispatch samp
- News.com Enterprise Hardware sar
- All News.com newsletters

**SPECIAL OFFERS FROM OUR P**  
CLICK ON A T TLE BELOW TO LEARN MOI

- Surveys
- IT Professionals
- IT Management
- Small Business Owners

**► SIGN UP NOW**

[Manage My Newsletters](#)

[How to advertise](#) | [Send us news tips](#) | [Contact us](#) | [Corrections](#) | [All RSS feeds](#) | [XML](#) | [News.com E:](#)  
[Site map](#) | [Linking policy](#) | [Content licensing](#) | [News.com mobile](#) | [Newsletters](#) | [E-mail alerts](#)

Featured services: [BNET: Business White Papers](#) | [Find tech jobs](#) | [Digital Living](#) | [Free mag. trial](#) | [Industry Whi](#)

[BNET](#) | [CNET.com](#) | [CNET Channel](#) | [CNET Download.com](#) | [CNET News.com](#) | [CNET Reviews](#) | [CNET Shopper.com](#) | [Con](#)  
[GameSpot](#) | [International Media](#) | [MP3.com](#) | [mySimon](#) | [Release 1.0](#) | [Search.com](#) | [TechRepublic](#) | [TV.com](#) | [Webst](#)

Copyright ©2005 CNET Networks, Inc. All Rights Reserved. [Privacy Policy](#) | [Terms of Use](#)

[About](#)