

Fri, Sep 09, 2005 [News](#) Editorials e-Industry e-Service e-Education 192583844 visits

[Front Page](#)

Search [Advanced Search](#) [Most Read Story](#) [Most Viewed Photo](#) >> [Login](#) << >> [Free sign up!](#) << **NEW**

[Taiwan News](#)

[World News](#)

[Editorials](#)

[Sports](#)

[Business](#)

[World Business](#)

[Features](#)

[Photo News](#)
[More World News](#)
[Restaurants](#)

Back Issue	
2005	
09	09
Full List	

TaipeiTimes
Advertise
Employment
FAQ
About Us
Contact Us
Copyright

Best View in [Mozilla](#)

Scientists build molecular mechanical powerhouse

THE GUARDIAN , DUBLIN
Friday, Sep 09, 2005,Page 7

Scientists have built a molecular machine that can move objects millions of times larger than itself. The machine, 80,000 times smaller than the width of a human hair, is a world first.

The new nanomachine could control the movement of drugs around the body so that they reached the exact point where they were needed. Or it could be employed in smart materials that could change their size or electrical conductivity at the flick of a switch.

David Leigh, a chemist at the University of Edinburgh, built the machine by covering a gold surface with engineered rod-like molecules with rings that slide up and down on them. When bathed in UV light, the ring changes its position on the rod, affecting the surface tension of a droplet of water on the gold surface enough to move the droplet.

"That's the equivalent of a piston moving a

- [Print](#)
- [Mail](#)
- [Wikipedia](#) **NEW**

Advertising
Ads by Google
Nanotechnology Expert solutions for genomics proteomics and diagnostics. www.tecan.com
Plasma Surface Treatment request free capabilities DVD send your product for free testing www.Nordson.com/SurfaceTreatment
KD2 Thermal Conductivity Fast, accurate and portable thermal conductivity/resistivity meters www.thermalresistivity.com
Ion Beam Parts & Access. Mark I/II, Drichuk, Hollow Cathode, CSC Platens, Filaments, Mung. www.intelvac.com/ion.htm

millimeter in the macroscopic world but being able to lift an object more than twice the height of the CN tower," he said on Wednesday at the British Association's festival of science in Dublin.

Every single biological process from photosynthesis to replication is controlled by mechanical movements at the molecular level.

"Learning how to do that with artificial molecules is really difficult because the way machines work at the molecular level is completely different to the way that machines work in the macroscopic world," Leigh said.

He said his technology could be used to perform all sorts of tasks.

"You could imagine in the future being able to move objects around using surfaces coated with molecular machines," he said.

This story has been viewed 289 times.

Copyright © 1999-2005 The Taipei Times. All rights reserved.