



**3 months FREE!**  
Switch to AT&T Yahoo!  
High Speed Internet

**\$14<sup>99</sup>**  
/mo

SWITCH NOW →

For residential customers. 12 mo. term. See details.  
Comparison of major broadband providers.



- [Home](#)
- [Latest News](#)
- [Browse Topics](#)
- [Encyclopedia](#)
- [Health Center](#)
- [Videos](#)
- [Science Books](#)
- [Health](#)
- [Mind & Brain](#)
- [Plants & Animals](#)
- [Space & Time](#)
- [Earth & Climate](#)
- [Matter & Energy](#)
- [Computers & Math](#)
- [Fossils & Ruins](#)

**Breaking News**

Updated every 15 minutes (powered by UPI)

All News

- [Top News](#)
- [Business](#)
- [Science](#)
- [Entertainment](#)
- [Sports](#)
- [Quirks](#)

Topics

- [Arts, Culture And Entertainment](#)
- [Crime, Law And Justice](#)
- [Disaster And Accident](#)
- [Economy, Business And Finance](#)
- [Education](#)
- [Environmental Issue](#)
- [Health](#)
- [Human Interest](#)
- [Labour](#)
- [Lifestyle And Leisure](#)
- [Politics](#)
- [Religion And Belief](#)
- [Science And Technology](#)
- [Social Issue](#)
- [Sport](#)
- [Unrest, Conflicts And War](#)
- [Weather](#)

**Nano props to get molecule-sized blades**

CHICAGO, July 16 (UPI) -- U.S. scientists have created a theoretical blueprint for assembling a nanoscale propeller that has molecule-sized blades.

University of Illinois-Chicago researchers, led by Assistant Professor Petr Kral, used classical molecular dynamics simulations to learn how such tiny propellers pump liquids.

The researchers found that at the molecular level the chemistry of the propeller's blades and their sensitivity to water play a big role in determining the propeller's efficiency. If the blades have a hydrophobic nature, they pump a lot of water. But if they are hydrophilic, they become clogged with water molecules and pump poorly.

"In principle, we could even attach some biological molecules to the blades and form a propeller that would work only if other molecules bio-compatible with the blades are in the pumped solution," he said.

Kral said such technology probably won't become reality for several years, but he said he believes the 21st century will be about hybrid biological and artificial nanoscale systems and their mutual co-evolution.

The work is featured in the July 12 issue of Nature and was described in the June 28 cover story of the journal Physical Review Letters.

Copyright 2007 by United Press International. All Rights Reserved.

**Related Headlines**

**Scientists 'close in' on molecular switch (July 10, 2007)** -- A team of U.S. and Japanese researchers has formed a single chemical bond on a single molecule -- moving closer to creating a molecular switch. Some ... > [full story](#)

**Remote-controlled nanomachines created (July 3, 2007)** -- U.S. physicists shining ultraviolet laser light on tiny molecules of azobenzene on a layer of gold have found they can force molecules to change ... > [full story](#)

**Nanoscale magnets may allow better storage (May 30, 2007)** -- U.S. and German physicists say chirality -- a spiral-like handedness in nanoscale magnets -- may provide better magnetic storage devices for ... > [full story](#)

Ads by Google

[Advertise on this site](#)

**Curious about Nanotech?**

Learn about Nanotechnology in an easy and convenient way!

[www.nanolarity.com](http://www.nanolarity.com)

**Nanotechnology Now**

The Nanotech Revolution Is Upon Us. Free Investor Research Report.

[www.QuantumInvestor.com/NanotechRpt](http://www.QuantumInvestor.com/NanotechRpt)

**Helicopter Ringtone**

Send this complimentary ringtone to your phone right now!

**Curious about Nanotech?**

Learn about Nanotechnology in an easy and convenient way!

**Nanotechnology Now**

The Nanotech Revolution Is Upon Us. Free Investor Research Report.

**Springer Handbook of**

Nanotechnology, 2nd Edition The Definitive Reference!

**Volvo Duo Prop (tm)**

High Quality Duo Prop replacements The New MATCH Series



**Related Science News**

> [more ...](#)

- Nano Propellers Pump With Proper Chemistry
- Compact Tidal Generator Could Reduce The Cost Of Producing Electricity From Flowing Water
- New Technology Enhances MRI Capabilities
- Purdue Findings Help Coast Guard Modify Search-and-rescue Plane
- "Cutting"-Edge Technology To Better Shape Submarine Propellers
- 'Nano-scissors' Make The Cut

**Related Encyclopedia Articles**

> [more ...](#)

- Water turbine
- Machine
- Artificial heart
- Macromolecule
- Heat pump
- Jet engine
- Nanorobotics
- Surface tension
- Protein folding
- Protein microarray

**Related Book Reviews**

> [more ...](#)

- Your Body's Many Cries for Water
- The Immunoassay Handbook, Third Edition
- Chemistry: The Central Science, Ninth Edition
- Short Protocols in Molecular Biology (Short Protocols in Molecular Biology)
- Biology : The Unity and Diversity of Life (with CD-ROM and InfoTrac)

[Science News](#)

[Encyclopedia](#)

[Books](#)

Text: [small](#) | [med](#) | [large](#)

**Search Archives**

Find:

> [options](#)

[JobStream](#) [Quick Search](#)

**Keywords:**

e.g., registered nurse

**Location:**

City, State or Zip

**Job category:**

- Select a Category

[careerbuilder.com](http://careerbuilder.com)



**TUNICA**

**ROOMS**

**FROM**

**\$39/NT**

**STAY**

**AND**

**PLAY...**

**TODAY!**

[Book Now!](#)

**In Other News ...**

**Germans, Koreans kidnapped in Afghanistan**  
(2 hours ago)

[RingRingMobile.com](http://RingRingMobile.com)

### Nanotechnology Investment

New nanotechnology that may reverse aging and treat disease

[www.504bank.com/telodpo.asp](http://www.504bank.com/telodpo.asp)

### Nanoscale Science AFM

Nanoscale Bio, physics applications AFM tools for non-contact metrology

[www.parkafm.com](http://www.parkafm.com)

### Tiny molecular ID system developed (May 14, 2007)

-- A U.S.-led team of scientists has created a process that can identify biological molecules using less than a drop of salt water in a microchip-sized ... > [full story](#)

### Technology monitors myriad molecules (May 7, 2007)

-- A U.S. scientist has created a computer chip consisting of thousands of electrodes yielding molecules that bind to receptor sites. Chemistry ... > [full story](#)

Ads by Google

[Advertise on this site](#)

#### Need

#### Nanoparticles?

We offer custom-developed and off-the-shelf nanomaterials!

[www.nntech.com](http://www.nntech.com)

#### Nanotechnology

Subscribe to free e-letter to get the latest on Nanotech investing!

[www.nanotechinvestornews.net](http://www.nanotechinvestornews.net)

#### Coffee Exposed

A shocking secret coffee co's don't want you to know

[www.coffeefool.com](http://www.coffeefool.com)

New! Search [Science Daily](#) or the entire web with Google:

Google

Web  ScienceDaily.com

### Nano Propellers Pump With Proper Chemistry

(July 17, 2007) -- Chemists at the University of Illinois at Chicago have created a theoretical blueprint for assembling a nanoscale propeller with molecule-sized ... > [full story](#)



### Compact Tidal Generator Could Reduce The Cost Of Producing Electricity From Flowing Water

(June 14, 2006) -- What happens if you run an electric motor backwards? That is exactly what researchers Dr Steve Turnock and Dr Suleiman Abu-Sharkh from the University of Southampton asked themselves after they had ... > [full story](#)

### New Technology Enhances MRI Capabilities

(January 5, 2006) -- Researchers at Barrow Neurological Institute in Phoenix have developed a new method that allows technicians to obtain clearer Magnetic Resonance Imaging (MRI) scans with less sensitivity to patient ... > [full story](#)



### Purdue Findings Help Coast Guard Modify Search-and-rescue Plane

(November 8, 2005) -- Purdue University engineers are helping the U.S. Coast Guard deal with a possible 10-fold increase in vibration that could result from installing a larger observation window in a search-and-rescue ... > [full story](#)

### "Cutting"-Edge Technology To Better Shape Submarine Propellers

(May 16, 2002) -- Super smooth propellers of maximum structural integrity allow submarines to run silently in deep water. These nickel-aluminum-bronze alloy propulsion units take as long as 12 months to manufacture ... > [full story](#)

### 'Nano-scissors' Make The Cut

(March 26, 2007) -- Researchers in Japan have developed a pair of molecular-scale scissors that open and close in response to light. The tiny scissors are the first example of a molecular machine capable of mechanically ... > [full story](#)

### Three Sandia Experimental Wind Turbines Spin In Texas Panhandle

(January 21, 2000) -- Three small wind turbines spinning in the Texas Panhandle as part of a series of experiments being conducted by the Department of Energy's Sandia National Laboratories promise to answer some big ... > [full story](#)

### Bacteria Grown In Simulated Martian Environment

(June 15, 1999) -- A University of Arkansas researcher has become the first scientist to grow methane-producing microorganisms under some of the conditions found on Mars. His work may provide clues for finding similar ... > [full story](#)

### First Biomolecular Motors With Metal Propellers Can Live Inside Cells, Cornell Nanobiotechnologists Report

(November 28, 2000) -- Nanobiotechnologists at Cornell University have built and pilot-tested the first biomolecular motors with tiny metal propellers. Success in fabricating and operating hybrid organic-inorganic ... > [full story](#)



### Water Theory Is Watertight, Researchers Say

(January 17,

### Congrats pour in for India's new president

(2 hours ago)

### Teen imprisoned for text-messaging death

(2 hours ago)

### Bush plans post-colonoscopy bike ride

(2 hours ago)

### Napoli broken up for easier scuttling

(2 hours ago)

### N. Korea presses for electricity reactors

(4 hours ago)

### Southern Britain drenched in rain

(4 hours ago)

### Dingell guards turf on energy

(5 hours ago)


### Three major wildfires burning in Utah


(5 hours ago)

### Report: Iran to fund Syrian arms deals

(5 hours ago)

... more breaking news at [NewsDaily](#) -- updated every 15 minutes

 2007) -- There may be tiny bubbles in the wine, but not at the interface between water and a waxy coating on glass, a new study shows. The behavior of water when placed in contact with hydrophobic ... > [full story](#)

 **Water Flows Like Molasses On The Nanoscale** (April 25, 2007) -- A Georgia Tech research team has discovered that water exhibits very different properties when it is confined to channels less than two nanometers wide -- behaving much like a viscous fluid with a ... > [full story](#)

**Copyright © 1995-2007 ScienceDaily LLC — All rights reserved — Contact: [editor@sciencedaily.com](mailto:editor@sciencedaily.com)  
[About This Site](#) | [Editorial Staff](#) | [Awards & Reviews](#) | [Contribute News](#) | [Advertise With Us](#) | [Privacy Policy](#) | [Terms of Use](#)**