

# Center for Nanotechnology in Society University of California, Santa Barbara

[www.cns.ucsb.edu](http://www.cns.ucsb.edu)

## WEEKLY CLIPS

Oct. 16-31, 2010

### Top Deck

What the nation's (& world's) top papers, news wires and sources have been saying about nanotechnology.

#### High-Tech Cures for Water Shortages

*Wall Street Journal*

Oct. 18

Michael Totty

"Growing populations are straining supplies in parched areas of the U.S. Southwest, the Middle East and Australia, forcing governments to come up with costly solutions or face the risk of shortages. Other regions have plenty of water but lose billions of gallons a day because of an aging infrastructure prone to leaks and catastrophic failure.

Enter technology."

#### Piezo power

*The Engineer (UK)*

Oct. 18

Ellie Zolfagharifard

"Power junkies are taking over our cities. Maybe you've seen them in a café, head down, laptop under arm, searching for a source of electrical power to feed their addiction. Or perhaps they've been lurking next to a games machine, waiting for an

opportunity to unplug it so that they can charge their iPad in time for their next Twitter update."

[It's all down to size](#)

The Times (South Africa)

Oct. 18

Shanthini Naidoo

"Professor David Britton of the University of Cape Town, a former chair of the South African Nanotechnology Initiative, points out that nanoscience and nanotechnology have existed for thousands of years."

[Nanotechnology: Beyond the Hype](#)

IndustryWeek

Oct. 20

Jonathan Katz

"Nanotechnology can make things lighter, stronger or more efficient, but can it really revolutionize industries such as medicine or energy?"

[Nanoscale Analysis of Rechargeable Batteries Pinpoints Cause of their Demise](#)

IEEE Spectrum Nanoclast blog

Oct. 20

Dexter Johnson

"It is my fervent belief that nanotechnology's ability to push the lowly battery to new heights will be one of the field's biggest achievements in the not-too-distant future. Sure expanding the water supply and better harvesting the sun's energy are no doubt big achievements. But from a very personal level, I want my cell phone, MP3 player and laptop to last a lot longer on charge than they currently do."

[Powerful Microscope Could Transform Renewable Energy](#)

US News and World Report

Oct. 21

Marlene Cimon

"Scientists at Rutgers University and a small Washington State company are collaborating on a state-of-the-art electron microscope that will produce an electron beam as tiny as the size of a hydrogen atom-the smallest atom known-and can study the inner workings of materials important in creating new sources of renewable energy."

[New Nanospheres are the Stiffest Biological Materials Ever Created, Surpassing Kevlar](#)

*Popular Science*

Oct. 22

Clay Dillow

"Printable body armor, better bulletproof glass, and tougher steel are just a few of the applications for a new materials technology developed by Israeli researchers. A team of scientists there have developed a transparent material made of self-assembling nanospheres that is the stiffest organic material ever created, surpassing the properties of stainless steel and even Kevlar."

[Batteries the Size of a Grain of Salt Enabled by Nanowires](#)

IEEE Spectrum Nanoclast blog

Oct. 25

Dexter Johnson

"I have made clear my interest in seeing nanotechnology employed so as to improve the current state of batteries."

[Kremlin nano-orders miss the mark](#)

*The Moscow News*

Oct. 25

Tom Washington, Alina Lobzina

"Nanotechnology bosses need to sell, sell, sell in a bid to justify their lavish government funding."

[EU Project Aims at Stemming the Tide of Wasted Energy for Our Electronic Devices](#)

IEEE Spectrum Nanoclast blog

Oct. 27

Dexter Johnson

"I have made the point on a couple of occasions that when nanotechnology is applied to energy its major impact right at the moment is in helping to conserve energy rather than helping in generating it."

[A Nano-Solution to Energy 'Vampires'](#)

The New York Times' Green blog

Oct. 27

John Collins Rudolf

"Vampire power, the electricity consumed by devices that are plugged in but not in use, costs American homeowners some \$4 billion every year and accounts for 5 to 10 percent of all residential energy use, according to estimates from the Department of Energy. Studies in Europe have found similar amounts of energy waste in residences and businesses."

**On Deck**

## What Local Sources are Reporting

### [FDA Process For Nano Drug Review "Adequate," Official Says](#)

*New Haven (CT) Independent*

Oct. 18

Gwenyth K. Shaw

"OTOMAC, Md. - The U.S. Food and Drug Administration is still evaluating whether its policies need tweaking to deal with the increasing development of drugs that use nanomaterials, but the agency's current procedures are 'adequate' for the time being, an official told a conference here."

### [Nanomedicine Could Revolutionize Cancer, HIV Research](#)

*New Haven (CT) Independent*

Oct. 20

Gwenyth K. Shaw

"POTOMAC, Md. - For Esther Chang, treating cancer using nanomaterials is like delivering a package by FedEx: what you need goes right to your door.

They have the address, she said. The difference between a FedEx truck and a crop duster is that airplanes have no address."

### [A Periodic Table for Nano?](#)

*New Haven (CT) Independent*

Oct. 22

Gwenyth K. Shaw

"Potomac, Md. - Donald Tomalia wants to create what he calls a "common language" to help nanotechnology pioneers relate to biological and chemical researchers. He thinks he's found the Rosetta stone, of sorts, through analyzing patterns displayed by nanoparticles - trends that, he hopes, can help create a kind of periodic table for nanomaterials, the super-tiny particles that acquire new properties and serve as building blocks for new super-medicines."

### [European Commission Moves Toward Nano Definition](#)

*New Haven (CT) Independent*

Oct. 25

Gwenyth K. Shaw

"The European Commission has released a draft recommendation on how to define 'nanomaterial,' taking at least a small step in a process that is bedeviling regulators worldwide."

### [Controversy Surrounds Nanotech Food Experiments](#)

WIBW.com (Kansas)  
Oct. 25

"Scientists throughout the world are claiming that Nanotechnology will take the earth's food industries by storm, thereby changing the way food is produced for human or animal consumption."

[Nanoshells appear to kill cancer at root](#)  
*Houston Chronicle*  
Oct. 28  
Todd Ackerman

"Heated gold nanoshells, the touted Houston invention now in cancer trials, appear to help kill diseased cells at a previously unreachable root level, according to new research."

[Triad Invention Could Wipe Out The Light Bulb](#)  
WFMY (Greensboro/High Point, NC)  
Oct. 28  
Frank Mickens

"Winston-Salem, NC - This is one bright idea and researchers say it could revolutionize how we use lighting."

## **Nano Press**

What nano-centered publications are reporting

[Novel nanopatterning technique uses liquid bridge to transfer materials from mould to substrate](#)  
Nanowerk  
Oct. 20

"Many nanotechnology research projects - from electronics to photonics, security, biotechnology and medicine - require some form of nanopatterning technique in fabricating the devices, structures and surfaces required. And although they may not be visible to the naked eye, the nanometer-sized trenches, ridges, curves and grooves of these patterns and surfaces have a very visible impact in a wide range of fields. Of course, nanopatterning is a very delicate task which is only possible with special techniques and methods. From 2004 to 2008, the EU even funded a 30m [Euro] project to develop low-cost scalable processes and tools to cover the needs of nanopatterning."

[From the Sewer to the Sound: Researchers Examining Nanoparticles](#)  
Nanotechwire.com  
Oct. 23

"While swimmers and boaters along any shore consider the slimy green film that coats everything from rocks to docks as a nuisance, University of New Haven (UNH) chemical engineering student Nicole Reardon and Assistant Professor Shannon Ciston, Ph.D. think otherwise. They view the slime, or biofilm, as a complex community that may hold the key to informing humanity of the true environmental impact of the chemical nanoparticles that find their way from area kitchens, baths and garages into Long Island Sound. One such controversial compound is titanium dioxide, which is used to whiten and brighten a multitude of products, including candy, cosmetics, toothpaste and paint."

### [Nanotechnology promises have gone unfulfilled, says Stanford prof](#)

Small Times

Oct. 25

"Thomas Kenny, Ph.D., Professor of Mechanical Engineering at Stanford University, told attendees of the MEMS Technology Summit (10/19-10/20/10, Stanford University) that nanotechnology promises have gone unfulfilled."

### [Nanotechnology Enables Image-Guided Breast Cancer Therapy](#)

AzoNano

Oct. 27

"By combining an iron oxide nanoparticle, a tumor-targeting peptide, and a therapeutic nucleic acid into one construct, a team of investigators from the Massachusetts General Hospital and Harvard Medical School have created an agent that holds potential as targeted therapy for breast cancer. In addition, this new agent can be easily tracked in the body using standard magnetic resonance imaging (MRI)."

### [Understanding how cells respond to nanoparticles](#)

PhysOrg

Oct. 28

"Gold nanoparticles are showing real promise as vehicles for efficiently delivering therapeutic nucleic acids, such as disease-fighting genes and small interfering RNA (siRNA) molecules, to tumors. Now, a team of investigators from Northwestern University has shown that the safety of gold nanoparticle-nucleic acid formulations depends significantly on how the nucleic acids and nanoparticles are linked to one another, a finding with important implications for those researchers developing such constructs."

### [Scientists demonstrate more efficient way to connect nanoparticles for single-electron devices](#)

PhysOrg

Oct. 28

Lisa Zyga

"By connecting single nano-objects together, scientists can fabricate tiny solid-state devices through which a precisely controlled single-electron current can flow. In the past several years, scientists have been developing different methods for connecting single nano-objects, such as metallic nanoparticles, semiconducting nanocrystals, and molecules. However, as the size of the nano-objects decreases, the efficiency of these methods also decreases, so that most methods result in a low yield at the scale of a few nanometers. In a new study, scientists have developed a new way to connect single nano-objects that could overcome these challenges and enable the creation of new nanodevices."

### **Other (science) issues related to nanotechnology**

#### **[Rice, TMC team take aim at pancreatic cancer](#)**

EurekAlert  
Oct. 18  
David Ruth

"Researchers from Rice University's Laboratory for Nanophotonics (LANP), the radiology department at Baylor College of Medicine (BCM) and the University of Texas MD Anderson Cancer Center are preparing to test a combined approach for diagnosing and treating pancreatic cancer with a specially engineered nanoparticle."

#### **[Regulatory Science Initiative Will Prepare FDA for New Technologies](#)**

National Cancer Institute Bulletin  
Oct. 19

"On October 6, FDA Commissioner Dr. Margaret Hamburg released a [report](#) that outlines plans to modernize the agency's product safety review and approval procedures through its Regulatory Science Initiative."

#### **[Atlanta-based company develops greener cement](#)**

Journal of Commerce (Canada)  
Korky Koroluk  
Oct. 22

"Nanotechnology is coming to the cement industry. An American start-up company based in Atlanta has developed a nano-scaled form of cement that it claims will slash the cost of manufacturing cement by about a third, and carbon dioxide emissions by about 30 per cent."

### [Nanomaterials and the end-of-life question](#)

European-Coatings.com

Oct. 22

Kirsten Wrede

"Nanotechnology and novel materials are innovation drivers when it comes to the development of clean and efficient technologies. An industry dialogue recently held by the German Federal Ministry of Education and Research gathered material and nanotechnology R&D experts and environmental professionals who focused on opportunities and challenges of nanomaterials for environmental technologies."

### [Nanoparticles make leaves glow](#)

RSC

Oct. 22

"Can street lights be replaced by trees? Taiwanese scientists believe that they can using gold nanoparticles to induce luminescence in leaves."

### [Researchers working on 10x more efficient cellphone batteries](#)

Techspot.com

Oct. 29

Emil Protalinski

"The École Polytechnique Fédérale de Lausanne, in Switzerland, is working on making gadgets 10 times more efficient when in use, and almost eliminating energy consumption when idle. The project is called Steeper, after the novel transistors it is focusing on, which get their name because of the abrupt change they exhibit when switching between on and off states."

Also noted by [TMCNet](#).

### [Researcher finds differences but no general trends when potential contaminants bond to nanoparticles](#)

PhysOrg

Oct. 30

"More research is needed to understand how nanoparticles could impact the environment. When it comes to the size of nanoparticles moving contaminants in water, the jury's still out. That's what Moira Ridley, a professor at Texas Tech University's Department of Geosciences, found out with several experiments involving strontium and nanoparticles of titanium dioxide - one of the most widely produced nanoparticles used in everything from cosmetics and sunscreen to automotive paint."