

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

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

**WEEKLY CLIPS**

August 3-16, 2010

10 YEARS AGO IN NANO NEWS . . .

[Molecular tweezers added to nano-tech toolbox](#)

*Independent / Agence France Presse*  
August 10, 2000

"Paris - Scientists reported on Thursday that they have built a pair of molecular tweezers out of DNA, adding a significant device to the toolbox of nanotechnology, one of the most exciting areas of physics.

The tweezers have tiny arms just six nanometres (six millionths of a millimetre) in length and can be instructed to open and close also by using DNA as a fuel, say the scientists, publishing their research in the British journal Nature."

*Also noted by [PhysicsWorld](#), [ABC](#) (Australia), [BBC](#).*

[Nanotech: Small Things Considered](#)

Science Friday  
August 11, 2000

"This week, the National Science and Technology Council released a report outlining the Administration's strategy for investing in research into nano-scale science. The President has proposed almost doubling the current Federal research in nanotechnology in the next fiscal year, to \$495 million."

**Top Deck**

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

### [Contact Lens Monitors Health](#)

*Los Angeles Times*

August 4, 2010

Veronica Chufo

"Imagine seeing a readout of your glucose levels - on your contact lenses.

That's what University of Washington researchers are working on. Associate professor Babak Parviz presented the work Tuesday afternoon at the NASA Langley Research Center and Tuesday night at the Virginia Air & Space Center.

Using nanotechnology, researchers are integrating microscopic optical, electronic and biosensing devices into contact lenses."

### [Nanostructured Metamaterial Enables Invisibility Cloak](#)

*IEEE Spectrum Nanoclast Blog*

August 6, 2010

Dexter Johnson

"Clearly the most attractive super hero power for nanotechnology at the moment is invisibility. Last month we had a nano-enabled coating that managed to make aircraft invisible to radar. Now we have a metamaterial consisting of fishnet-like film containing holes about 100 nanometers in diameter that could serve as an invisibility cloak."

### [Turkish scientist develops new-generation nano-smart molecules](#)

*Hurriyet (Anatolia News Agency, Turkey)*

August 6, 2010

"A Turkish scientist has developed nano-smart molecules capable of making basic arithmetical operations through chemical reaction.

The invention is a milestone toward developing computers incorporating processors made of nano-molecules."

### [Technology could transform windows into generators](#)

*The Engineer (U.K.)*

August 9, 2010

Siobhan Wagner

"Transparent solar cells fabricated with gold nanoparticles could potentially turn windows into energy-generating machines and achieve efficiencies as high as 80 per cent, claim developers of the technology."

### [Scientists to develop nanochip to detect oral cancer](#)

CNET News.com

August 9, 2010

Elizabeth Armstrong Moore

"In early 2010, a research project found a simple swipe of a diagnostic biochip to be 93 percent 'specific' in detecting which of 52 patients being studied had malignant oral cancer lesions.

Now, the international research team announces that it has been awarded \$2 million from the National Institutes of Health to develop the test, which involves removing cells with a brush, placing them on a chip, and inserting that chip much like a credit card into an analyzer, with results ready in 8 to 10 minutes."

*Also noted by [UPI](#).*

### [Silver Beware: Antimicrobial Nanoparticles in Soil May Harm Plant Life](#)

*Scientific American*

August 9, 2010

Nicholette Zeliadt

"Silver nanoparticles, used for their potent antimicrobial properties in hospitals and consumer products, may negatively impact plant growth as they make their way into the environment, according to a new study. Whereas it may not spell the end of all flora as we know it, the findings suggest that the nanomaterial has environmental impacts worthy of further investigation."

### [New Brain Tumor Treatment Shows Promise](#)

*Los Angeles Times*

August 10, 2010

Rachel Bernstein

"Patients with brain tumors don't have many good options - surgery and radiation can damage crucial parts of the brain, and chemotherapy drugs don't easily cross the blood-brain barrier. A new procedure using magnets, ultrasound and minuscule drug-coated particles may be an effective solution, according to a study on rats published in Tuesday's edition of the journal Proceedings of the National Academy of Sciences."

*Also noted by [MSNBC](#).*

### [Nano-hairpin peeks into cells](#)

*Nature*

August 12, 2010

Zeeya Merali

"A nanometre-scale probe disguised as part of a biological membrane has successfully infiltrated and monitored a living cell. Researchers hope that the lipid-coated device will tell us more about the inner workings of cells.

The most common device currently used to record electrical signals within neurons and other cells is made from a micrometre-scale glass pipette containing an electrode. The pipette 'clamps' onto the cell's membrane and records electrical signals, but the technique is far from ideal, says Charles Lieber, a chemist at Harvard University in Cambridge, Massachusetts. The pipette is cumbersome, and often damages the cell it is meant to monitor."

Also noted by [Popular Science](#), [National Geographic](#), among others.

[Nanoparticles may advance medical technology](#)

*The Engineer* (U.K.)

August 12, 2010

Stephen Harris

"Scientists at Leicester University hope to develop a new kind of nanoparticle that could improve cancer treatment and MRI scans.

Nanoparticles made by adding layers of transition metals and other materials to helium droplets could be used to create magnetic fields for use in medical technology, according to Dr Shengfu Yang of Leicester's chemistry department."

['Electronic nose' detects cancer](#)

*Jerusalem Post*

August 16, 2010

Judy Siegel-Itzkovich

"*The British Journal of Cancer* has just recognized the potential of the 'electronic nose' - developed by Dr. Hossam Haick and publicized in recent years - for detecting at an early stage four types of cancer: lung, breast, prostate and colon.

The cancer-sniffing device was invented by the researcher at the Russell Berrie Nanotechnology Institute in the Technion-Israel Institute of Technology's Faculty of Chemical Engineering."

### On Deck

What Local Sources are Reporting

[UWM researchers work to develop self-healing metals](#)

*Milwaukee Journal-Sentinel*

August 3, 2010

Rick Barrett

"In the film 'Terminator 2: Judgment Day,' the battle wounds of a liquid-metal man could heal themselves in seconds.

Now, University of Wisconsin-Milwaukee scientists have developed self-healing metals that could be useful on the battlefield. They also could be used for quick repairs in machines ranging from automobiles to power plant turbines."

[Putting some heat on cancer - Local scientists' use of nanoparticles to 'cook' tumors shows promise in the lab](#)

*Houston Chronicle*

August 7, 2010

Eric Berger

"Naomi Halas' babies have grown up.

It's been some 13 years since her research group at Rice University created tiny balls of glass coated in gold, sort of like really, really small chocolate-covered cherries.

Now these particles - dubbed nanoshells because they're measured in billionths of meters - are beginning to find their way into the treatment of cancer."

[Nano-Cars Are Coming, Along With Regulation](#)

*New Haven (CT) Independent*

August 11, 2010

Jim Motavalli

"The auto industry is preparing to electrify the automobile, the biggest change in a century. And it's using cutting-edge materials to do it - including nanotechnology, the science of working with very, very small materials that take on new super-properties.

Using nanotech, auto manufacturers are looking to roll out tires that last longer, electric car batteries with more range, and cars that pollute less."

[Research collaboration with Yonsei University leads to new cancer drug-delivery system](#)

*Daily Bruin (UCLA)*

August 16, 2010

Shoshee Jau

"Going into her fourth year in graduate school, organic chemistry student Courtney Thomas regularly communicates across the globe and conducts lab experiments, hoping to one day save lives.

This may not be the picture of your everyday science student, but such is the scene in the laboratory of Dr. Jeffrey Zink, a UCLA chemistry and biochemistry professor. For the past year and a half, graduate student researchers from the Zink Group have collaborated with scientists from South Korea's Yonsei University to create a novel treatment method for cancer victims."

## Nano Press

What nano-centered publications are reporting

### [Safe Work Australia Releases Reports On Engineered Nanomaterials and Nanotechnology Risk Assessment Tool](#)

Azonano

August 5, 2010

"Safe Work Australia Chair, Mr Tom Phillips AM, today announced the release of two research reports on engineered nanomaterials and a nanotechnology risk assessment tool.

Safe Work Australia commissioned the Royal Melbourne Institute of Technology to undertake a survey for the report titled Engineered Nanomaterials: investigating substitution and modification options to reduce potential hazards. The survey assessed the current substitution and modification practices used in Australian nanotechnology activities."

### [Response to EU Parliament MEP call for bans on Nanomaterials](#)

Nanotech-Now.com

August 6, 2010

"MEPs have called for nanosilver and long multiwalled carbon nanotubes to be banned in electrical and electronic products. Members of the EU Environment Committee made the call as they voted on amendments to the Restriction of Hazardous Substances Directive."

### [Scientists at RTI International to Develop Registry for Nanomaterials](#)

Azonano.com

August 6, 2010

"Scientists at RTI International will develop a registry for nanomaterials as part of a new contract from the National Institutes of Health's National Heart, Lung and Blood Institute.

Under terms of the federally funded three-year contract, worth \$2,889,367, researchers at RTI will establish a web-based registry that will provide curated information on the biological and environmental interactions of well-characterized nanomaterials."

[New "Nano" Product Recall Brings Safety Data and Manufacturer Accountability back on the Agenda](#)

Nanotechnology-New.com

August 8, 2010

"In July 2010, a floor sealer product called NanoCover has been ordered to be removed from the Danish market and it has been notified in the European Union's RAPEX system. The NanoCover product series encompasses various surface treatment products, which, according to the manufacturer, are 'developed and manufactured using the latest and most advanced nanotechnologies'."

[Investigating the impact of carbon nanotubes on male reproductive health](#)

Nanowerk

August 9, 2010

"With fully conclusive findings about the toxicity of carbon nanotubes (CNTs) still up in the air (see "[The ongoing challenge of determining carbon nanotube toxicity](#)"), research on biomedical applications of CNTs is pushing full steam ahead. Adding to the list of potential concerns, a recent nanotoxicology study by a U.S.-Chinese research team looked into the impact of carbon nanotubes on male reproductive health."

[EPA releases draft document of silver nanomaterial case study](#)

Nanowerk.com

August 13, 2010

"EPA is announcing a 45-day public comment period for the draft document, *Nanomaterial Case Study: Nanoscale Silver in Disinfectant Spray* (External Review Draft), as announced in the [August 13, 2010 Federal Register Notice](#). The deadline for comments is September 27, 2010.

This [draft document](#) (pdf, 4MB) presents a case study of engineered nanoscale silver (nano-Ag), focusing on the specific example of nano-Ag as possibly used in disinfectant sprays. This case study is organized around a comprehensive environmental assessment (CEA) framework, which combines a product life-cycle perspective with the risk assessment paradigm. The document does not draw conclusions about potential risks . . . "

Also noted by [Environmental Protection Magazine](#).

[Predicting how nanoparticles will react in the human body](#)

Nanotechnology Now

August 15, 2010

"NC State researchers Dr. Jim Riviere, Burroughs Wellcome Distinguished Professor of

Pharmacology and director of the university's Center for Chemical Toxicology Research and Pharmacokinetics, Dr. Nancy Monteiro-Riviere, professor of investigative dermatology and toxicology, and Dr. Xin-Rui Xia, research assistant professor of pharmacology, wanted to create a method for the biological characterization of nanoparticles - a screening tool that would allow other scientists to see how various nanoparticles might react when inside the body."

### Other (science) issues related to nanotechnology

#### [Nanoblur - company credits nano-prisms for 'flawless' skin](#)

Truth in Aging.com

August 9, 2010

"A product called Nanoblur by the company Indeed Labs makes some pretty tall claims: look 10 years or *more* younger in 40 seconds or *less*. For just \$19?

Indeed Labs gives credit to nano-prisms for erasing the signs of aging and the look of lines, wrinkles, crow's feet, sagginess, and enlarged pores. This 'advanced optical treatment' is essentially a trick on the eyes; the logic of creams like these is that billions of light-refracting nano-prisms come together on the skin and bounce natural light into wrinkles, minimizing the shadow effect that wrinkles cause and creating an illusion of flawless skin."

#### [Nanocouriers transport molecular cargo](#)

RSC.org

August 9, 2010

"A train-like system that transports molecular cargo between specific pick-up and delivery zones on a chip has been created by Swiss scientists. The technology could lead to nanoscale assembly lines, or improved self-healing materials, they claim."

#### [New Nano-tech Device Takes Salt Out of Sea Water](#)

Planetsave.com

August 9, 2010

Michael Ricciardi

"With clean water access becoming an issue of major concern for many of the world's peoples, we are seeing more investment in water desalination (salt removal) and purification technologies and systems. While current desalination technology (using 'reverse osmosis' filtering) can effectively remove salt from water, the process is slow and does not remove some pollutants and microbial pathogens."

#### [Tiny Probes Measure Signals Inside Cells](#)

Technology Review.com

August 12, 2010  
Katherine Bourzac

"Researchers at Harvard University have made biocompatible, nanometer-scaled transistors that can be used to take highly precise electrical and chemical readings inside cells. The bioprobes are much more sensitive than the passive electrodes that have been used to make intracellular measurements in the past."

[Nanotechnology has rewards, risks](#)

*Daily Commercial News and Construction Record*

August 13, 2010  
Korky Koroluk

"Nanotechnology, the science of the incredibly small, is the subject of so much research that it's impossible to keep up with it all. Its potential for immense advancements in medicine get the most publicity, but after that, the best bet for possible positive impacts occur in the construction industry.

We've already seen examples of nanomaterials that can strengthen both steel and concrete, keep dirt from sticking to windows, make materials fire-resistant, greatly improve the efficiency of solar panels, boost the efficiency and even allow bridges and buildings to 'feel' the cracks, corrosion and stress that will eventually cause structural failures."

[Nanoscale DNA sequencing could spur revolution in personal health care](#)

EurekaAlert

August 16, 2010

"In experiments with potentially broad health care implications, a research team led by a University of Washington physicist has devised a method that works at a very small scale to sequence DNA quickly and relatively inexpensively.

That could open the door for more effective individualized medicine, for example providing blueprints of genetic predispositions for specific conditions and diseases such as cancer, diabetes or addiction."