

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

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

**WEEKLY CLIPS**

August 17-30, 2010

10 YEARS AGO IN NANO NEWS . . .

[Medical microchips' massive potential](#)

BBC News

August 27, 2010

"The future of treatment for life-threatening conditions, including cancer and heart disease, could come from a new breed of microchips.

Biological microelectromechanical devices, known as bioMEMS, could be implanted into the body to deliver doses of drugs or carry new cells to damaged tissue."

**Top Deck**

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

[For diabetics, taking the sting out of insulin](#)

*Chicago Tribune* (LA Times)

August 16, 2010

Kendall Powell

"Physicians hear a common refrain from patients with Type 2 diabetes: 'Not the needle! Not yet. Give me three more months. I'll be good!' So they try with renewed vigor to control their disease without insulin through diet, exercise and oral medications. Inevitably, many patients lapse and

their diabetes again slips out of control, doing invisible damage to their kidneys, nervous systems and cardiovascular health."

[Sunscreens may become transparent](#)

*Sydney Morning Herald* (Australian Associated Press)

August 17, 2010

"Slip, slop and slap without the streak.

Nanotechnology - the study of matter on an molecular scale - is being used to develop a transparent sunscreen without any sign of white marks."

[Unlocking the potential of nanotechnology](#)

*Computing* (U.K.)

August 17, 2010

Martin Courtney

"Nothing is ever simple in IT, and nanotechnology is no different. For a start, the term nanotechnology can mean different things to different people. For purists, it refers to a microscopic structure equal to or less than one nanometre (nm) in size - about a billionth of a metre. But many vendors and regulators . . . believe the term nanotechnology can be applied to any structure between 1nm and 100nm in size, which means various nanoscale silicon components and microchips already inhabit many of the computers and other electrical and electronic devices we use today."

[Heady days of nanotech funding behind it, the U.S. faces big challenges](#)

*Scientific American*

August 18, 2010

Larry Greenemeier

"Nearly a decade after the U.S. launched its National Nanotechnology Initiative ([NNI](#)), the program's \$12 billion in funding has helped place the country at the head of the pack regarding the development of science and technology measured in billionths of meters. Yet, despite the U.S.'s unrivaled adeptness at patenting nanotech inventions, the country's lackluster track record of bringing nano-scale technology products to market leaves the door open for China, Russia and other tech-savvy countries to challenge U.S. nanotech supremacy, according to a new report by Boston's Lux Research."

Also noted by [EE Times](#).

[EPA May Give 1st Approval of Nanosilver for Fabrics](#)

AOL News

August 18, 2010

Andrew Schneider

"A Swiss chemical producer may soon be the first company to receive approval by the U.S.

Environmental Protection Agency to use nanosilver to make clothing smell better, stay cleaner and destroy germs.

However, health scientists say the nanoparticles will wash out with the rinse water and could cause unknown environmental and health problems downstream."

[Greens call for register of nanomaterials](#)

ABC News (Australia)

August 19, 2010

Simon Lauder

"The Greens have accused both major parties of not doing enough to ensure proper regulation of the booming nanotechnology industry.

The Greens are worried about the lack of safeguards and public information about nanomaterials.

They say they will make it mandatory for them to be declared publicly."

[Self-cleaning solar panels could find use in the dusty environs of Arizona, the Middle East or Mars](#)

*Scientific American*

August 22, 2010

Larry Greenemeier

"The best places to collect solar energy are also some of the dustiest on Earth and beyond, a quandary that leads to inefficiencies in how well the cells are able to convert strong sunlight into renewable electricity. The solution, according to new research, is to coat solar cells with material that enables them to chase away dirt particles on their own with the help of dust-repelling electrical charges."

[M.I.T.: Oil-absorbing nanotech could have cleaned up Deepwater in one month \[video\]](#)

*Scientific American*

August 27, 2010

Larry Greenemeier

"It looks like a solar-powered treadmill, but researchers at the Massachusetts Institute of Technology (M.I.T.) say they have created a flat, conveyor belt-like device that could clean up oil slicks far more efficiently than anything used at the Deepwater Horizon site. The key is a nanoparticle-infused, water-repelling mesh coating a conveyor belt. As important is the device's ability to work autonomously as part of a larger team of devices, which M.I.T. calls a Seaswarm."

## [Reducing Nanotechnology to "Vaporware"](#)

*IEEE Spectrum NanoClast* blog

August 30, 2010

Dexter Johnson

"I have to confess to getting more than a small chuckle from a recent blog entry from Scott Locklin, who reduces the entire enterprise of nanotechnology to 25 years of charlatantry.

The criticism takes two forms. In one, the idea of labeling the surface and colloidal science 'nanotechnology' is a bit bogus. Secondly, the Drexlerian vision of nanotechnology he characterizes as little more than science fiction."

## On Deck

What Local Sources are Reporting

### [Study: Super-Strong Buildings May Contain Hidden Risks](#)

*New Haven (CT) Independent*

August 20, 2010

Gwyneth Shaw

"As cutting-edge nanomaterials move into the construction industry - promising fireproof windows and super-strong building walls - researchers must make a huge effort to understand how they could affect people and the environment, both now and long into the future, a new study recommends. [The report, published last month](#) in the scientific journal ACS Nano, reviews existing research on nanomaterials and concludes that while there are exciting possibilities for the construction industry, there could be danger ahead, too."

### [Killer sunscreen? What your mama never told you about sun protection](#)

*Vancouver (BC) Observer*

August 23, 2010

Manda Aufochs Gillespie

"It's enough to drive parents crazy: 'Slather your kids in sunscreen!' we are told. Yet, we are learning that the majority of popular sunscreens might NOT provide protection from the worst of the skin cancers and might actually increase our children's chances of getting some cancers.

### **BEWARE!**

*According to the [EWG](#), popular sunscreens known to contain ingredients possibly linked to cancer, birth defects, hormone disruption include: Panama Jack, Origins, No-Ad, Neutrogena, L'Oreal, Hawaiian Tropic, Coppertone, Bareminerals, Banana Boat, Aveeno." (Italics original)*

### [Silicene, a new form of silicon, might speed up microcircuitry](#)

*Knoxville News-Sentinel*

August 25, 2010

Philip F. Schewe

"Graphene, single-atom-thick sheets of carbon atoms, is just about the hottest thing in nanotechnology."

[Tech Beat: Coming soon: a thin coating of glass on everything](#)

*Times-Standard* (Eureka, CA)

August 26, 2010

Elizabeth H. "Liz" Casey

"Just think: With a soon-to-be-released nanotechnology product called spray-on liquid glass, you can clean your bathroom but once per year. Yes, you read that correctly. And, if that's not enough to send a tingle down every homeowner's spine, this product is set to revolutionize aspects of several other key industries, such as food service, medical supplies, hospital operations, and even the wine industry."

[Tech startups hope to fight cancer](#)

*Houston Chronicle*

August 28, 2010

Purva Patel

"Houston is known for energy, but the city is also building a budding technology sector. The world's oil capital is home to scores of hopeful entrepreneurs developing new Web sites, software, medical devices, clean technologies and other innovations. Research at the Texas Medical Center, NASA, local universities and in the energy industry, for example, has given birth to new ventures. Here's one of an occasional set of snapshots of local tech startups. Time will tell if they take off. "

## Nano Press

What nano-centered publications are reporting

[Novel class of radially-aligned nanofibers promising for tissue regeneration](#)

*Nanowerk*

August 17, 2010

"Nanotechnology-enabled tissue engineering is a rapidly growing field. At the core of tissue engineering is the construction of scaffolds out of biomaterials to provide mechanical support and guide cell growth into new tissues or organs. In particular, electrospun biodegradable polymeric nanofibers are being used in scaffolds for engineering various tissues such as nerves, cartilages or bone (read more: ["One day](#)

[doctors will grow new bones with nanotechnology](#)"). Electrospinning is a fabrication technique which can produce nanoscale fibers from more than 100 different polymers. The electrospun nanofibers are typically collected as nonwoven mats with random orientation."

#### [Nanoscale DNA Sequencing Could Spur Revolution In Personal Health Care](#)

Nanotechwire

August 17, 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."

#### [Toxicity of silver nanoparticles increases during storage](#)

Nanowerk

August 18, 2010

"Silver had already been recognized in ancient Greece and Rome for its infection-fighting properties but in modern times pharmaceutical companies made more money developing antibiotics. However, thanks to emerging nanotechnology applications, silver has made a comeback in the form of antimicrobial nanoparticle coatings for textiles, surgical instruments, lab equipment, floors or wall paints . . .

Not helping to put these concerns to rest is [a new report](#) from a group of researchers in Germany that shows that toxicity of silver nanoparticles increases during storage because of slow dissolution under release of silver ions."

#### [Porous silica nanoparticles deliver anticancer therapy](#)

Nanowerk

August 18, 2010

"In cancer research, nanotechnology holds great promise for the development of targeted, localized delivery of anticancer drugs, in which only cancer cells are affected. By carrying out comprehensive studies on mice with human tumors, scientists at the University of California, Los Angeles, have obtained results that move the research one step closer to this goal."

#### ['Greening' your flat screen TV with self-assembled peptide nanotubes](#)

Nanowerk

August 24, 2010

"Electronic products pollute our environment with a number of heavy metals before, during and after they're used. In the U.S. alone, an estimated 70% of heavy metals in landfill come from discarded electronics. With flat screen TVs getting bigger and cheaper every year, environmental costs continue to mount."

#### [Nanotechnology membrane for high-speed water sterilization](#)

Nanowerk

August 26, 2010

"Various nanotechnologies are being researched for applications in water treatment because the removal of bacteria and other organisms from water is an extremely important process, not only for drinking and sanitation but also industrially as biofouling is a commonplace and serious problem. In what could be developed as a cheap point-of-use water filter for deactivating pathogens in water, or as a new component to be integrated into existing filtration systems to kill microorganisms which cause biofouling in downstream filters, researchers have now demonstrated a textile based device for the high speed electrical sterilization of water."

#### [Ranking the nations on nanotech](#)

Small Times

August 27, 2010

David Hwang, Lux Research

"Amidst stock market crashes and bankruptcies, nanotech research and development (R&D) continues to grow across the globe. Even after the hype for nanotech fell precipitously in the wake of the first wave of failed ventures, it remains a strong cradle for innovation. Global totals for nanotech publication counts, patent issuances, government funding, and corporate spending all continued to grow (albeit by negligible amounts in some cases). Governments maintained or increased their funding, and corporations as a whole kept their nanotech budgets static through 2009. Venture capital (VC) investors, however, dialed back their enthusiasm level, cutting investments by 43% relative to 2008. All told, financial support for nanotech totaled \$17.6 billion in 2009, up only slightly from 2008's \$17.5 billion."

### Other (science) issues related to nanotechnology

#### [Nanoscale coating for surgical equipment and hospital surfaces safely kills MRSA](#)

Gizmag.com

August 16, 2010

Darren Quick

"Methicillin-resistant *Staphylococcus aureus* (MRSA), the bacteria responsible for antibiotic resistant infections, poses a serious problem in hospitals, where patients with open wounds,

invasive devices and weakened immune systems are at greater risk of infection than the general public. In a move that could significantly reduce this risk, researchers at Rensselaer Polytechnic Institute have created a nanoscale coating for surgical equipment, hospital walls, and other surfaces which safely eradicates MRSA."

#### [Nanotube-Enzyme Coating Kills MRSA Safely on Contact](#)

MedHealthWorld.com

August 17, 2010

J. M. Graham

"According to a study in ACS Nano, an innovative coating created by researchers at Rensselaer Polytechnic Institute killed 100 percent of MRSA on contact within 20 minutes. As tested, the nanoscale coating was combined with ordinary latex housepaint; it could also be combined with a variety of other finishes and used for surgical equipment, hospital walls, and other surfaces which might harbor MRSA."

*Also noted by [WebMD](#), Albany (NY) [Times-Union](#).*

#### [Antibacterial socks kill odor and ice caps](#)

Mother Nature Network.com

August 18, 2010

Bryan Nelson

"Smelly feet may be the price we have to pay for saving the planet. A new study reported by New Scientist has discovered that nanoparticles commonly found in antibacterial socks may be inadvertently raising levels of greenhouse gases."

#### [Breakthrough Gene Therapy Prevents Retinal Degeneration](#)

PR Newswire

August 20, 2010

"In one of only two studies of its kind, a study from researchers at Tufts University School of Medicine and the Sackler School of Graduate Biomedical Sciences at Tufts demonstrates that non-viral gene therapy can delay the onset of some forms of eye disease and preserve vision. The team developed nanoparticles to deliver therapeutic genes to the retina and found that treated mice temporarily retained more eyesight than controls. The study, published online in advance of print in Molecular Therapy, brings researchers closer to a non-viral gene therapy treatment for degenerative eye disorders."

#### [Jury still out on sunscreen nanoparticles: study](#)

PhysOrg

August 20, 2010

"A technique developed by Macquarie University has proven for the first time that a tiny

amount of zinc from sunscreens is absorbed through the skin into the human body, but is not yet able to discern whether the zinc is in nanoparticle form."

### [Nanotech Stocks are Poised for Growth](#)

Wealth Daily.com

August 24, 2010

Steve Christ

". . . My guess is that if Mr. McGuire [of *The Graduate*] were to offer his advice today, his one word wouldn't be 'plastics'; it would be 'nanotech.'

Like plastics, computers, and the Internet before it, nanotechnology will change the world in ways that we can't even imagine now. That's how powerful the nano-world will become."

### [Nano "Cluster Bomb" Could Fight Cancer, Extend Lives](#)

SecondAct.com

August 26, 2010

"As boomers get older, we tend to worry more about the Big C--and unfortunately, those fears are justified. As this 2007 article from the scientific journal *Nature* details, scientists have discovered that the biological processes of cancer and aging, while different and separate, are woven from similar molecular threads."

Also noted by [DailyTech.com](#)