

Center for Nanotechnology in Society University of California, Santa Barbara

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WEEKLY CLIPS

May 4 - 24, 2010

NEW FEATURE

10 YEARS AGO IN NANO NEWS . . .

[Not-so-small doubts](#)

Science

May 12, 2000

"The National Science Foundation (NSF) is looking for a giant-sized, 124% increase in nanotechnology research to lead the Administration's half-billion-dollar initiative (*Science*, 11 February, p. 952). But even legislators impressed with nanoscience's potential aren't sure that NSF is up to the job of overseeing five other agency efforts."

[A Chip the Size of a Pinhead?](#)

BusinessWeek

May 15, 2000

"On tomorrow's chips, transistors could come in the shape of carbon nanotubes-tiny, bacteria-size clumps of atoms. While researchers have been suggesting this for years, two new university projects indicate that carbon nanotechnology is getting set to move from laboratories to factories.

Materials-science researchers at the University of California at Berkeley have found a clever way to make nano-tubes into on/off switches. Such transistors could pave the way to nanotube circuits on futuristic chips the size of a pinhead. The basic idea is deceptively simple: Make an X with two nanotubes. Getting the nano X to work like a switch took some jiggering, though. That's because nanotubes are slippery buggers - minute changes can produce huge shifts in their electrical properties."

[New Microscopes May Soon Shine A Beacon Into Molecular World](#)

New York Times

May 23, 2000
Kenneth Chang

"A glowing point at the tip of an optical fiber could someday be the torch that lights the world of DNA, proteins and other molecules.

Writing in the current issue of the journal Nature, researchers at the University of Konstanz in Germany report that they have created a microscope that uses a single fluorescent molecule as its light source."

Top Deck

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

Fiber optics may replace semiconductors

May 5, 2010

"TEL AVIV, Israel, May 5 (**UPI**) - Israeli scientists say they have developed a nanotechnology that can enable fiber optics to replace semiconductors in communications.

Tel Aviv University researchers led by Koby Scheuer of the university's NanoPhotonics Laboratory said the newly developed technology can make computers operate hundreds of times faster. He said the communications technology 'enabler' might be in use within five to 10 years and can also result in smaller, more flexible and more powerful devices."

Also noted by [The Economic Times](#) (India)
[New battlefield wound treatment developed](#)

May 5, 2010

"BOSTON, May 5 (**UPI**) - A U.S.-funded research project is using light-activated technology to treat battlefield injuries in place of conventional sutures, staples and glues.

The Defense Department-funded and U.S. Air Force Office of Scientific Research-managed study involves a technology called Photochemical Tissue Bonding, which can repair skin wounds and reconnect severed peripheral nerves, blood vessels and tendons, as well as incisions in the eye."

Also noted by [Wired](#) and [Scientific American](#)

[Inside Russia's 'nanotech park'](#)
BBC News
May 5, 2010
Katia Moskovich

"With Russian science not at its best since the break-up of the USSR, Moscow is now attempting to follow an example from its Soviet past.

It plans to co-operate with nations from the Commonwealth of Independent States (CIS) - made up of former Soviet republics - in the areas of nanotechnology and innovation.

An organisation with a grand-sounding name, International Innovative Nanotechnology Centre (IINC) of the CIS countries, has been set up in Dubna, just outside Moscow.

The place is intended to propel Russian science to the heights it once enjoyed, by turning the fruits of pure research by scientists in the former Soviet states into real-life products."

[New fibre-optics technology to speed up internet](#)

The Hindu (India)
May 6, 2010

"It may look like a piece of gel but it's a new nano-based telecom technology 'enabler' that can make computers and the internet hundreds of times faster.

The technology, that may be in use only five or 10 years in the future, is being designed by Koby Scheuer of Tel Aviv University's (TAU) School of Electrical Engineering."

[U.S. Navy Pumps More Money into High Efficiency Desalination Technology](#)

Scientific American
May 8, 2010
Tina Casey

"The U.S. Office of Naval Research has awarded a \$400,000 grant to desalination tech leader NanoH2O to develop a high efficiency desalination nanomembrane that is more resistant to fouling. The effort, part of the Navy's Future Naval Capabilities program, is aimed at increasing energy efficiency and portability for shipboard use."

[Nanotechnology big time](#)
Jerusalem Post
May 9, 2010
Moshe Kaveh

"This week Bar-Ilan University will dedicate the Multidisciplinary Center for Advanced Materials and Nanotechnology. Just another festive occasion at an academic institution that spotlights, for a brief moment, the work of a group of researchers focused on a specific field of scientific endeavor. One more ceremony at which these researchers are showered with deserved praise, where proper thanks are expressed to donors who have provided us with another essential infrastructure for enriching human knowledge. But the new center's unique characteristics also provide us with an opportunity to examine several important issues relevant to Israeli science in the 21st century."

[Of the Singularity, Nanobots and Man](#)
The Korea Times
May 9, 2010

Shelton Bumgarner

"While traveling through Southeast Asia last year, I finished reading the book 'The Singularity is Near' by Ray Kurzweil. The technological 'singularity,' often jokingly called 'the rapture for nerds' is the idea that at some point technology will go faster than our culture's ability to process it. If you think things change fast in Dynamic Korea, then you haven't seen anything yet."

[Congress can help America stay competitive with COMPETES Act reauthorization](#)

The Hill.com - Congress Blog

May 12, 2010

Rep. Mike Honda (D-CA)

"This week, Congress votes on the America COMPETES Reauthorization Act, H.R. 5116. It's worth taking a moment to explain to the American people what the hard work and thoughtful consideration of Chairman Bart Gordon and members of the Science and Technology Committee, on which I am proud to have once served, have produced. The American people are looking to Congress to ensure our economy remains competitive. This bill helps with that . . .

I am also pleased that H.R. 5116 contains a reauthorization of the National Nanotechnology Initiative that incorporates numerous provisions that I originally proposed in my own legislation, the Nanotechnology Advancement and New Opportunities (NANO) Act, H.R. 820."

[Taking the NanoPulse - Help Wanted: Nanotechnology Experts](#)

IndustryWeek

May 12, 2010

Scott E. Rickert

"It's May, and all across the U.S. newly minted bachelors, masters and PhD grads are job hunting. For businesses, it's the perfect time to add staff from the new crop. If you're a nanotechnology company like mine, you probably have a good feel for what you need and how to go about attracting the right people. But I find that when I speak at non-nanotech industry conferences my Q&A sessions are filled with questions about hiring. How do you find the right person who can bridge the gap between your core business and nanotechnology? Who's the right person to help you find new ways to integrate the power of nanotechnology into products? Where do you start looking? Sure, there are nanotech job listings sprinkled across the web - from AzoNano to Monster.com - but how do you write the job description?"

[They Walk. They Work. New DNA Robots Strut Their Tiny Stuff](#)

Wall Street Journal

May 13, 2010

"For the first time, microscopic robots made from DNA molecules can walk, follow instructions and work together to assemble simple products on an atomic-scale assembly line, mimicking the machinery of living cells, two independent research teams announced Wednesday.

These experimental devices, described in the journal *Nature*, are advances in DNA nanotechnology, in which bioengineers are using the molecules of the genetic code as nuts, bolts,

girders and other building materials, on a scale measured in billionths of a meter. The effort, which combines synthetic chemistry, enzymology, structural nanotechnology and computer science, takes advantage of the unique physical properties of DNA molecules to assemble shapes according to predictable chemical rules."

Also covered by [CNET](#), [Agence France Presse](#), [MSNBC](#), [Popular Science](#), [RSC](#), [The Hindu](#) (India), [The Register](#) (U.K.) among others.

[High-tech cement maker wins top MIT award](#)

CNET

May 13, 2010

Lance Whitney

"Nanoengineered cement beat out a handful of other technologies in this year's MIT Entrepreneurship Competition, earning its creators a \$100,000 prize.

C-Crete Technologies, which created a new type of cement that cuts down on carbon dioxide emissions and yet is stronger than any current cement, took home the top prize Wednesday night from the awards ceremony on MIT's campus in Cambridge, Mass. A panel of judges composed of fellow entrepreneurs, venture capitalists, and industry executives chose C-Crete as the winner based on the execution of its business plan and presentation."

[20 Crazy Concept Phones](#): From snake phones to handsets that look like hockey pucks, these hopelessly impractical devices are the coolest-looking phones you'll never want to own.

PC World

May 13, 2010

Paul Suarez

"Nokia Morph [5 of 22] . . .

When Nokia conceptualized the [Morph](#) cell phone, it wanted to show how nanotechnology could radically change portable electronics."

See also: [YouTube clip](#) of Morph in "action."

[Scientists split water molecules by copying plants](#)

CBC News (Canada)

May 13, 2010

"Researchers at the Massachusetts Institute of Technology (MIT) have discovered a method of splitting a water molecule by copying photosynthesis, the process plants use to convert water, carbon dioxide and sunlight to fuel that helps them grow.

The scientists have created a method of using sunlight to initiate a reaction that separates oxygen atoms from water molecules more efficiently than other methods.

They eventually hope to use a similar method to just as efficiently produce hydrogen gas, which can be stored and used to create electricity to power vehicle fuel cells, for example."

[Protection With a Price](#): Some question the safety of sunscreen products for kids.

Los Angeles Times

May 14, 2010

Julie Deardorff

"Sunscreen can help prevent those painful episodes of childhood sunburn, a risk factor for skin cancer later in life. But although sunscreen is recommended for infants older than six months by everyone from the National Institutes of Health to the American Academy of Pediatrics, there's growing concern by advocacy groups, parents and some doctors that some of the chemicals in the products are endocrine disruptors and may pose risks to children."

The U.S. Food and Drug Administration, which drafted sunscreen safety standards in 1978, is expected to issue the final rules in October. But for the last three decades, 'it has been a Wild West on the market,' said Jane Houlihan, senior vice president of research for the advocacy group Environmental Working Group (ewg.org)."

[Green product pushed to aid in clean-up](#)

FoxToledo.com

May 14, 2010

Derica Williams

"Oil from the Deepwater Horizon rig explosion is creeping toward Louisiana, lingering near marshes and polluting the water.

William Loiry is Chairman of the Disaster Response Leadership Forum. He came down from Washington and is working with Green Earth Technologies, a company that said it can fix the damage done by the massive spill with an environmentally safe product, G-Marine Fuel Spill Clean-up."

[Tiny particles in skin range kept secret, say lobbyists](#)

Sydney Morning Herald

May 15, 2010

Melissa Singer

"AN ENVIRONMENTAL lobby group has accused a 'natural' skincare company of misleading consumers about the use of nanoparticles in its products.

Jurlique, whose range is sold nationally, told Friends of the Earth last year that its products did not contain nano-grade titanium dioxide and zinc oxide.

But a response from within the company to an anonymous survey, done by consumers on behalf of Friends of the Earth, said its sunscreens 'use fine titanium dioxide as nanoparticles'."

[Very big things in very small packages](#)

Jerusalem Post

May 15, 2010
Judy Siegel-Itzkovich

"If staffers at Bar-Ilan University's magnificent new nanotechnology research center take frequent coffee breaks to chat in the atrium that links its 38 labs, they can justifiably claim they are working. When scientists from a wide variety of disciplines working in the range of nanometers (billions of a meter) get together, new ideas inevitably sprout from the interaction.

Nanotech, the science of the small, is relevant to fields from chemistry and energy storage to drug development and photonics, with the principle being that it involves materials sized in nanometers - billions of a meter."

[Electrical properties of glass at the nanoscale lead to a pump the size of a red blood cell](#)

Scientific American
May 16, 2010
John Matson

"Researchers have devised a way to fabricate tiny electrodes from glass, harnessing a phenomenon by which nanoscale glass walls can be transformed from insulators to conductors and back again. At larger scales, that phenomenon, known as 'dielectric breakdown,' leads to excess heating and structural damage, but at the nanoscale the process appears to be harmless and reversible.

Sanghyun Lee of the Pohang University of Science and Technology in South Korea and Ran An and Alan Hunt of the University of Michigan at Ann Arbor announce their finding in a paper published online May 16 in *Nature Nanotechnology*, along with a prototype application in what may be the smallest man-made pump in existence. (*Scientific American* is part of Nature Publishing Group.)

[Nano adhesive: Better than a gecko's foot](#)
May 17, 2010

"AKRON, Ohio, May 17 (**UPI**) - U.S. researchers say they've created a nanotechnology-based adhesive that has four times the sticking power of a gecko's feet.

Scientists from the University of Akron and the Rensselaer Polytechnic Institute said their process makes polymer surfaces covered with carbon nanotube hairs.

Led by Rensselaer Professor Pulickel Ajayan and Akron Professor Ali Dhinojwala, the scientists said their prototype flexible patch can stick and unstick repeatedly with properties better than the natural gecko foot. They said they fashioned their material into an adhesive tape that can be used on a wide variety of surfaces, including Teflon."

[Next nano revolution](#)
Deccan Herald (Bangalore)

May 18, 2010
L. Subramani

"Therapies for cancer have traditionally involved highly powerful drugs. But, if bio-nanotechnology research goes off well, it could solve the dilemma doctors face today in treating cancer. Nanotechnology can be strengthened with biosciences[.]

It has often been hailed as the next revolution in technology. If on-going research were to be successful, experts say that it would pave the way for everything from improved quality of life for human beings to environmental sustainability. Nanotechnology worldwide has been applied in different areas, including health, life sciences and other facets of biology.

[Smallest man-made pump revealed](#)

BBC News
May 18, 2010
Rosalind Pidcock

"Scientists have revealed the smallest man-made pump ever built - the size of a human red blood cell.

The team of US and Korean researchers used ultra-fast laser pulses to create tunnels in glass rods thinner than a human hair.

The glass walls of these tunnels can conduct electricity. The scientists powered their minuscule fluid pump by 'switching' this conduction on and off."

[Eco anarchists: A new breed of terrorist?](#)

The Independent (U.K.)
May 18, 2010
Nick Harding

"Until last month the small market town of Langnau in the rolling Swiss hills had two claims to fame; it was both a centre for the production of Emmental cheese and also one of the sunniest places in Switzerland. Today, thanks to a routine police traffic inquiry, it has the dubious honour of being the location where one of Europe's biggest alleged acts of eco-terrorism was foiled.

On the night of 15 April local officers pulled over a car on one of the town's quiet streets. Inside the vehicle they found a large cache of explosives, primed and ready to detonate. The three people in the car are alleged to have been members of the murky Italian anarchist group Il Silvestre, who were reportedly on a mission to blow up the nearby unfinished [pound] 55m IBM nanotechnology facility."

Also noted by the New Zealand [Herald](#).

[Nanocomposite Materials Offer Battery Boost](#)
Industry Week

May 19, 2010
Peter Alpern

"A new high-performance anode structure based on silicon-carbon nanocomposite materials could significantly improve the performance of lithium-ion batteries used in a wide range of applications from hybrid vehicles to portable electronics. Produced with a "bottom-up" self-assembly technique, the new structure takes advantage of nanotechnology to fine-tune its materials' properties, addressing the shortcomings of earlier silicon-based battery anodes. The simple, low-cost fabrication technique was designed to be easily scaled up and compatible with existing battery manufacturing.

[One day your pants may power up your iPod](#)
Los Angeles Times
May 20, 2010
Tiffany Hsu

"Reporting from Berkeley -

Need juice for a dying iPod? You may soon be able to plug the gadget into a shirt, dance the electric slide and be good to go.

Researchers at UC Berkeley are perfecting microscopic fibers that can produce electricity from simple body motions such as bending, stretching and twisting. The filaments, which resemble tiny fishing lines, may soon be woven into clothing and sold as the ultimate portable generators."

[The Science of Super Thin, Ultra Warm](#)
Forbes
May 20, 2010
Oliver Chiang

"The road to the world's warmest, thinnest outdoor gear has been a long one. In 1931 American chemical engineer Samuel Kistler invented the lightest known solid--an aerogel--by drying a form of silicon dioxide (a raw material for glass) under intense pressure and high temperature. His invention was 96% air and turned out to be an excellent insulator. This fall apparel maker Russell Outdoors will begin selling, for \$400, a superthin hunting jacket made of a material containing aerogels."

[Future phones may need to pass the sniff test](#)
MSNBC
May 20, 2010
Emily Schmitt

"Who needs a bloodhound - or even a nose?

The U.S. Department of Homeland Security is hoping that soon your cell phone will sniff out

poisonous gases. It's funding three companies to create a small chip - about the size of a dime - that would sit inside of cell phones and alert users to potentially deadly smells."

[When science gets political, long-term knowledge is lost](#)

Globe and Mail (Canada)

May 21, 2010

Sumitra Rajagopalan

"The problem with Canada's new research chairs isn't lack of women, it's lack of open-ended vision . . .

These trends are very apparent in some of the CERC choices. The biomedical and computing research chairs are beyond reproach, but some of the other choices reflect a narrow, utilitarian focus.

Take Prof. Thomas Thundat, hired by the University of Alberta. He is renowned in the materials science world, and ought to have been given a broader mandate to develop novel nanomaterials for a range of applications, and to shape the future of nanosciences as a whole. Instead, his mandate is to find better ways of extracting oil from tar sands - and only that. This research area, which clearly fulfills a political objective, even has an absurd new title: 'oil sands molecular engineering.' "

[How safe is nanotechnology?](#)

Times of Malta

May 23, 2010

Anne Zammit

"Last week in Parliament the Prime Minister was heard calling for more graduates in nanotechnology. At the same time, former University rector Fr Peter Serracino Inglott warned of ethical questions surrounding a 'nanotechnology buzz.'

The European Union is committed to future and emerging technologies. The expanding market for nanotech, though still poorly regulated, is expected to bring 'disruptive' changes to world markets. Much of the research money, which runs into several billion euros, is spent on safety assessments."

[SL nanotechnology must add value to commodities : top scientist](#)

Sunday Times (Sri Lanka)

May 23, 2010

Jagdish Hathiramani

"Nanotechnology in Sri Lanka should focus on adding value to the country's commodities which will result in immediate gains for industry, according to noted scientist and nanotechnology researcher, Prof. Veranja Karunaratne of the Sri Lanka Institute of Nanotechnology and the University of Peradeniya.

Prof. Karunaratne made these comments in response to a question from the audience at the recently held "Public Lecture on Nanotechnology: Social and Sustainability Issues", organised by the Sri Lanka Association for the Advancement of Science in Colombo."

[Australian researchers create seven atom transistor, open door to smaller and faster computers](#)

New York Daily News

May 24, 2010

Nick Klopsis

"It's no small feat - big-time computer components are going microscopic.

Australian scientists have developed a transistor consisting of just seven atoms, and the innovation could lead to more processing power in a smaller package, [reports the BBC](#).

The transistor - which acts as a switch on a computer chip - was made by swapping seven atoms of a silicon crystal for phosphorous atoms and is part of a larger plan by the research team to create a solid-state quantum computer."

Also noted by [Economic Times](#) (India), Sydney Morning [Herald](#), among others.

[Nano knows best](#)

New Statesman (U.K.)

May 24, 2010

Jason Stamper

"In 1965, Intel's co-founder Gordon E Moore described a trend that would become known as Moore's law: that the number of transistors you can squeeze on to a computer chip would continue to double roughly every two years. His prediction has proved uncannily accurate, and has been one of the reasons that electronic devices, from computers to digital cameras and phones, have been able to get faster as they have grown smaller.

Comparing the Osborne Executive portable computer from 1982 with an Apple iPhone, for instance, you find that the Osborne is 100 times heavier, 500 times bigger and ten times more expensive. Yet it has one-hundredth the processing power of Apple's gizmo. So, will Moore's law ever run out of headroom? In recent years, researchers have been pushing the boundaries further, using a new discipline called nanotechnology."

On Deck

What Local Sources are Reporting

[Nanotechnology goes full steam ahead](#)

The Charles Street Times (Lindenhurst [NY] High School)

May 3, 2010

Kaitlin Vandervoort

"Nanotechnology is the study of controlling matter on an atomic or molecular scale. By being able to deconstruct then reassemble atoms into previously unknown material, nanotechnology has the potential to create numerous new materials and devices such as electronics, energy and

medication. Anything from advances in medicine, food and even sports equipment can come from nanotechnology. This may sound promising, but nanotechnology also raises concerns about toxicity and environmental impact of nanomaterials. Many people think that nanotechnology could be a positive effect on society, but research shows differently."

[Canada bans nano-particles from organic food production](#)

Winston-Salem (NC) Examiner

May 5, 2010

David Jurist

"The Canadian General Standards Board has banned nanotechnology in organic food production. An amendment was added to Canada's national organic rules banning nanotechnology as a 'Prohibited Substance or Method.' The section lists substances or techniques that are prohibited in organic food production, including genetic engineering, synthetic pesticides, irradiation, and cloned animals."

[The science of cosmetics:](#) Debate over positive, negative effects of cosmetics reveals importance of and impact on skin health

Daily Bruin (UCLA)

May 5, 2010

Alexandra Mathieu

"For cosmetics enthusiast Alyssa Perez, applying, sharing and experimenting with different cosmetics colors and brands is a hobby.

'It is not necessarily part of my identity, but it is fun,' said Perez, a second-year mathematics/economics student.

Perez, who explained that acne runs in her family, said she believes the skin problems she faces are not attributed to her daily use of cosmetics."

[U of A nanotech may benefit solar panels](#)

The Gateway (Univ. Alberta, Canada)

May 5, 2010

Lance Mudryk

"One University of Alberta researcher intends to develop a more efficient, cheaper solar panel using nanotechnology. Karthik Shankar, an assistant professor in the Faculty of Engineering, has been awarded a \$20,000 research grant and the Petro-Canada's Young Innovator Award in order to make his vision for solar panels a reality."

[This Is Your Brain On Nano-Silica](#)

New Haven (CT) Independent

May 6, 2010

Carole Bass

"Patients of the future might find doctors injecting tiny bits of silica into their brains. Tomas Guilarte wants to find out whether that's safe.

His preliminary answer, based on experiments with lab rats: Maybe yes, maybe no.

Researchers are experimenting with different kinds of nanoparticles - ranging in size from one-billionth of a meter to perhaps 100 times that - for help in scanning and treating brain tumors.

At that size, some materials can bypass the blood-brain barrier, which normally protects the brains from toxins in the bloodstream. The hope is that nanomedicines will make it easier to diagnose tumors and even deliver drugs directly into the out-of-control cells."

['NanoKnife' in use at Valley Baptist Medical Center](#)

The Baptist Standard (TX)

May 6, 2010

"HARLINGEN - A new treatment for cancer patients that kills cancer cells with electricity while not harming surrounding healthy tissue was performed for the first time in Texas at Valley Baptist Medical Center in Harlingen.

Daniel Fuentes, an interventional radiologist, performed the state's first NanoKnife procedure, which uses electricity instead of heat or freezing temperatures to destroy cancer cells. Valley Baptist is only the seventh hospital in the nation to offer the new procedure."

[Nano-bio-chip detects heart attacks](#) [includes video]

KTRK ABC13 (Houston)

May 6, 2010

Christi Myers

"HOUSTON (KTRK) -- A Rice University bioengineer has come up with a nano-bio-chip that can diagnose a heart attack in 15 minutes using saliva! He's already developed a nano-bio-chip quick test for HIV, and he's working on a similar 'quick test' for ovarian cancer

Walter Johnson had a heart attack, and a saliva test confirmed it. 'Doing it with a swab, just getting a little saliva, I think is a great thing,' Johnson said. So does his doctor."

[Nanoscience class has one under its belt](#): First undergrads finishing work at UAlbany's School of Nanoscale Science

Times Union (Albany, NY)

May 7, 2010

Scott Waldman

"Last year, Nick Bianchi was learning physics from a textbook.

Now, the 18-year-old is a freshman studying three-dimensional models of structures at the atomic level at the College of Nanoscale Science and Engineering at the University at Albany. He's adjusted his entire learning style to a million dollar computer lab where he can apply

nanoscale technology to real-world issues. On Thursday, he mapped a minuscule circuit board as one of his final projects in the first semester of undergraduate-level coursework."

[Nano solar is MIT's gift to humanity](#)

Winston-Salem (NC) Examiner

May 7, 2010

Clifford Bryan

"You take some of the brightest minds the United States has to offer and sometimes you come up with something special in nanotechnology solar. At MIT's Solar Frontiers Center engineers and scientists are pushing the envelope on nano solar efficiency and the size of photovoltaic solar cells."

[Nano particle cancer warning from Danish experts](#)

Ice News (Scandanavia)

May 8, 2010

"Danish experts have warned that some types of nano products could cause cancer in a similar way to asbestos exposure.

Modern technology has seen a growth in the use of nano particles across a wide scope of industries, with applications ranging from building and cleaning materials to super fast computers."

[Should nanomaterials be regulated? Notre Dame explores topic](#)

WSBT-TV (South Bend, IN)

May 10, 2010

Margaret Fosmoe

"Nanomaterials are being used these days in a wide variety of consumer items, from cosmetics to flat-screen TVs to baseball bats.

Such materials are designed to make products stronger, more flexible and more reliable. But no one really knows if some of the materials might eventually prove harmful to human health or the environment."

[Capturing Light](#)

Winston-Salem (NC) Journal

May 10, 2010

Richard Craver

"If a local nanotechnology company's solar-cell product generates a spark, homeowners could find themselves plugging into a 'smart' energy grid through a partnership with developers and utility companies.

The idea from FiberCell Inc., a spinoff of Wake Forest University's Center for Nanotechnology and Molecular Materials, seems to be a no-brainer on the surface, or in this case, a rooftop."

[UTA professor developing nanomedicine for cancer](#)

Forth Worth Business Press

May 10, 2010

Elizabeth Bassett

"Wei Chen, assistant physics professor at the University of Texas at Arlington, has a background in chemistry. And although he's in the physics department, he's actually working on nanomedicine research.

Looking for a possible future cancer treatment, Chen works with others from areas as diverse as his background."

[Study: 'Buckyballs' Pack A Comatose Bounce](#)

New Haven (CT) Independent

May 13, 2010

Katherine Bagley

" 'Buckyballs' could help halt the spread of cancer cells. They could help treat Alzheimer's.

They could also potentially cause human cells to lapse into a comatose state.

All that from a 'nanoparticle' far too small to see."

[Research in Buffalo may cure blindness](#) [includes video]

WIVB (Buffalo, NY)

May 18, 2010

Peter Ostrow

"Fascinating research is underway here in Buffalo aimed at preventing blindness.

About 100,000 Americans have an inherited eye disease called, "Retinitis Pigmentosa." It strikes when they're young."

[School Board Awards Bids, Approves New Classes](#)

Pulaski (TN) Citizen

May 20, 2010

Tracy Ayers

"An additional school day will not be added to the 2009-10 calendar to make up a day missed due to flood conditions. The Giles County Board of Education voted unanimously during its May 13 meeting to accept the waiver offer by the state Department of Education allowing students to be one day short of the 180 required school days. Board member Christie Glover was absent . . .

Introduction to nanotechnology was approved to be offered through the career and technical

education program for the 2010-11 academic year, with no ending date."

Some question safety of sunscreen products for children

Annapolis (MD) Capital

May 20, 2010

Julie Deardorff

"Sunscreen can help prevent those painful episodes of childhood sunburn, a risk factor for skin cancer later in life. And although sunscreen is recommended for infants older than 6 months by everyone from the National Institutes of Health to the American Academy of Pediatrics, there's growing concern by advocacy groups, parents and some doctors that some of the chemicals in the products are endocrine disruptors that may pose risks to children."

Hanesbrands on top of world

Winston-Salem (NC) Journal

May 21, 2010

"Hanesbrands Inc. said yesterday that an expedition team that wore its high-performance apparel has reached the summit of Mount Everest . . .

Clarke and Hanesbrands began collaborating in 2008 on appeal that would improve mobility, retained heat and shielded against the elements without adding weight or bulk.

Out of the project came the Champion Supersuit, which uses aerogel nanotechnology insulation instead of goose down."

Naturally inspired: Scientists mimic flora, fauna to create new technologies

Columbus (OH) Dispatch

May 23, 2020

Spencer Hunt

"They climb walls, burrow through garbage, squeeze under pantry doors and run like greased lightning when you turn on the kitchen lights.

Most people don't admire the skills of the common cockroach, but for a team of Case Western University scientists and engineers, the vermin are a source of inspiration."

Nano Press

What nano-centered publications are reporting

Nanotechnology policy framework for addressing nanomaterial risks in California

Nanowerk

May 4, 2010

"The Program on Reproductive Health and the Environment at the University of California, San Francisco, has developed a draft set of policy recommendations to address potential health risk

from nanomaterials and nanotechnology for the state of California titled: '[A Nanotechnology Policy Framework: Policy Recommendations for Addressing Potential Health Risks from Nanomaterials in California](#)' . . . This draft document addresses the new challenges that nanomaterials present to the policy and risk assessment process because of their unique properties.

[NPL Hels to Set Up Centre to Assess Potential Toxic effects of Nanoparticles](#)

Azom.com

May 4, 2010

"NPL [National Physical Laboratory, U.K.] Hels to Set Up Centre to Assess Potential Toxic effects of Nanoparticles

Nanoparticles, small chunks of matter less than 100 billionths of a metre across, have specific physicochemical properties that can be very useful in a variety of applications such as medicine, electronics, optical-electronic systems and imaging, as well as cosmetics and food products. However, the toxicology of nanoparticles is poorly understood and believed to be different to that of larger particles."

[Nanotechnologies to mitigate global warming](#)

Nanowerk

May 4, 2010

"One of the greatest current environmental concerns both for the near term as well as for the future is global warming caused by man-made carbon emissions and its well-recognized impact on climate change. There has been a dramatic increase in greenhouse gases, particularly carbon dioxide (CO₂), in recent times. According to the US National Oceanic and Atmospheric Administration (NOAA), CO₂ levels in the atmosphere now stand at 387 parts per million (ppm), up almost 40% since the industrial revolution. The largest source of CO₂ emissions globally is the combustion of fossil fuels such as coal, oil and gas in power plants, automobiles, industrial facilities and other sources."

[Nano Contributions to the Fight Against Heart Disease](#)

Nanotechnology Now

May 5, 2010

Earl Boysen

"Looking at news stories about the application of nanotechnology to medical issues it seemed to me that articles about curing heart disease show up much less frequently than articles about curing cancer. That got me thinking, so I started looking for programs that coordinate and fund research for the application of nanotechnology to curing heart disease."

[Nanotechnology Enriches Every Day Products](#)

Azonano

May 5, 2010

"Durable paint, water purification, faster computers, tougher shoe soles, and lighter and cheaper

televisions are all possibilities now that a Queensland University of Technology (QUT) scientist has discovered a way to disperse gold nanoparticles evenly through plastic.

Adrian Fuchs, from QUT's School of Physical and Chemical Sciences, said the technique he had developed was a model for dispersing metals in nanoparticle form throughout polymers or plastic materials."

[Shrink Secures Funding from DARPA to Advance its Nanotechnology Platform](#)

Azonano

May 5, 2010

"Shrink Nanotechnologies, Inc. ('Shrink') (OTCBB:INKND) (INKN), an innovative nanotechnology company developing products and licensing opportunities in the solar energy production, medical diagnostics and sensors and biotechnology research and development tools businesses, announced today that through its membership in the Micro/Nano Fluidics Fundamentals Focus (MF3) Center, headquartered at the University of California, Irvine (UCI), it has secured a research sponsorship funds from the Defense Advanced Research Projects Agency (DARPA). According to the agreement, up to fifty percent (50%) of the future funding commitments by Shrink through a sponsored research agreement will be eligible for DARPA matching funds.

Funding will be used toward advancing Shrink's proprietary nano-technology platform comprised of its advanced NanoShrink(TM) plastic material and a number of related patented and patent-pending technologies."

[Re-shaping bacterial inclusion bodies as improved nanomaterials for tissue engineering](#)

Nanowerk

May 7, 2010

"Cultured mammalian cells prefer growing on structured rather than on completely flat surfaces. In regenerative medicine, in which human cells must grow on artificial scaffolds to replace damaged tissue, appropriate biological signals, such as growth factors, but also mechanic stimuli should be provided at the nano and microscales for cell attachment and proliferation, mimicking the natural cell matrices in organic tissues. The straightforward fabrication of nanostructured surfaces as scaffolds for tissue engineering is complex, but instead, micro- and nanorugosities can be easily generated on flat surfaces by either top-down or bottom-up approaches."

[Gold's use in nanomedicine to eliminate cancerous tumors](#)

Nanowerk

May 7, 2010

"Gold isn't exactly what comes to mind when you think of treatments for cancer. But researchers at Ohio University are exploring whether the metallic element can actually save lives. Michael Carlson, a third-year doctoral student in chemistry and biochemistry at Ohio University, is studying how small particles of gold, heated by a laser, can kill malignant cancer cells."

[Re-shaping bacterial inclusion bodies as improved nanomaterials for tissue engineering](#)

Nanowerk
May 7, 2010

"Cultured mammalian cells prefer growing on structured rather than on completely flat surfaces. In regenerative medicine, in which human cells must grow on artificial scaffolds to replace damaged tissue, appropriate biological signals, such as growth factors, but also mechanic stimuli should be provided at the nano and microscales for cell attachment and proliferation, mimicking the natural cell matrices in organic tissues. The straightforward fabrication of nanostructured surfaces as scaffolds for tissue engineering is complex, but instead, micro- and nanorugosities can be easily generated on flat surfaces by either top-down or bottom-up approaches."

[Fab new laser nano-fabrication technology](#)
PhysOrg
May 7, 2010

"Laser interference lithography can produce very high-resolution nano-scale surface patterns at low cost, and now European researchers have made important breakthroughs in the area.

Two important breakthroughs by European researchers have brought an emerging nano-scale fabrication technology out of the lab and into the real world. The technique promises lower cost production of nano-devices at higher resolutions."

[Finnish Nanotechnology Takes Giant Strides in Five Years](#)
Azonano
May 7, 2010

"Nanotechnology is already a part of the everyday operations of over 200 hundred Finnish companies, and it is estimated that nanotechnology will generate turnover of EUR 1.2 billion in 2013. Boosted by Tekes' FinNano programme, an internationally significant nanotechnology cluster has been created in Finland in five years."

[Researchers spin pure batches of carbon nanotubes species](#)
Nanowerk
May 10, 2010

"In two new papers, Rice University researchers report using ultracentrifugation (UCF) to create highly purified samples of carbon nanotube species. One team, led by Rice Professor Junichiro Kono and graduate students Erik Haroz and William Rice, has made a small but significant step toward the dream of an efficient nationwide electrical grid that depends on highly conductive quantum nanowire."

[Nano-engineered steels for structural applications](#)
Nanowerk
May 10, 2010

"Steel is one of the most widely used engineering materials in the world. Its pre-eminent position amongst the engineering materials arises due to the abundance and low cost of its main

constituent, i.e. iron, and its amenability to produce a wide variety of engineered microstructures with superior properties, and recyclability."

[Successful Extraction of Light from Semiconductors with the Highest Efficiency](#)

Azonano

May 10, 2010

"Wang XueLun, Near-Field Nano-Engineering Group, Nanotechnology Research Institute, the National Institute of Advanced Industrial Science and Technology, succeeded in extracting light from a semiconductor into air with the highest efficiency.

For this purpose, ridges were fabricated on a semiconductor surface, and then, the fabricated ridges were coated with a silicon dioxide (SiO_2) layer. The mechanism of the light-extraction with high efficiency was also clarified.

Strong total internal reflection normally occurs at the interface between a semiconductor and air because the refractive index of a semiconductor material is usually far greater than that of air. For this reason, efficient extraction of the light generated in a semiconductor material into air becomes very difficult."

[Weeding Out Nanotechnology Fact and Fiction and Creating Regulations](#)

AzоМ

May 10, 2010

"Nanotechnology involves manipulating the unimaginably small. A nanometer is about 5 carbon atoms in a row, or the distance your fingernail grows in one second. Matter behaves fundamentally differently at that scale, opening up new possibilities for products and processes. Nanotech is a vast emerging field of research, full of possibilities, and the media and the public are starting to take notice.

'One promise of nanotech is the idea of building molecule-sized machines to haul atoms. You could 'grow' anything you wanted. You could grow a house. Or a t-bone steak,' said ASU law professor Joel Garreau at a science café, 'Facts or Hype: What is the Media Telling Us about Nano & Other New Technologies' at the Arizona Science Center on March 19."

[Cambridge scientist creates bloodless blood test](#)

[massdevice.com](#)

May 11, 2010

"A Draper Laboratory scientist develops an implantable nanosensor to analyze blood glucose levels without pin-pricks.

In Iron Man 2, our hero Tony Stark manages to save the world from the military-industrial complex and create an entirely new chemical element, but still suffers through the inconvenient and mildly painful tribulation of numerous pin-prick blood tests a day."

[Nanotechnology sensor detects type 1 diabetes in breath](#)

Nanowerk

May 11, 2010

"Acetone is also found in a healthy person's breath, but the concentration is only about 900 ppb (particles per billion); in people suffering from type 1 diabetes, however, the concentration is double that; and in the case of a ketoacidosis it can be even higher. That's why the sensor developed at ETH Zurich works so well: it can detect as few as 20 ppb of acetone and even works at extremely high humidity levels of over 90 percent - like in the human breath."

[From beams to buckyballs - setting the stage for the nanotechnology revolution](#)

Nanowerk

May 12, 2010

"Twenty-five years after the laser beam came to be, a historic meeting took place at Rice University that led to the discovery of the buckminsterfullerene, the carbon 60 molecule for which two Rice scientists won the Nobel Prize.

Now that the buckyball is celebrating its own 25th anniversary, it's worth noting that one wouldn't have happened without the other."

[Nanotechnology Tools Help to Study Breakdown of Myelin Inside Brain and Spinal Cord](#)

Azonano

May 12, 2010

"A National Institutes of Health grant will help University of Central Florida researchers explore new ways to potentially reverse the damage caused by multiple sclerosis and other neurological disorders.

Stephen Lambert, an associate professor in the College of Medicine and a member of UCF's Hybrid Systems Laboratory, has received \$428,000, the first installment of a four-year, \$1.9 million project. His team will study the breakdown of myelin, a substance that coats and protects nerves inside the brain and spinal cord, enabling electrical signals to reach distant nerve cells and muscles."

[Nanotechnology and patented SERS technique to rapidly, accurately detect rotavirus strains](#)

Nanowerk

May 13, 2010

"Using nanotechnology and a patented signal enhancing technique developed at the University of Georgia, UGA researchers have discovered a rapid, sensitive and cost-effective method to detect and identify a number of rotavirus strains and genotypes in less than one minute with greater than 96 percent accuracy."

[Scientists reveal secret of nanoparticle crystallization in real time](#)

PhysOrg

May 14, 2010

"A collaboration between the Advanced Photon Source and Center for Nanoscale Materials at Argonne National Laboratory has 'seen' the crystallization of nanoparticles in unprecedented

detail.

'Nanoscience is a hot issue right now, and people are trying to create self-assembled nanoparticle arrays for data and memory storage,' Argonne assistant physicist Zhang Jiang said. 'In these devices, the degree of ordering is an important factor'."

[Using light to inscribe nanoscale plastic parts](#)

Nanowerk

May 17, 2010

"One of the biggest obstacles in microscopy and in micro-fabrication is the so-called diffraction limit. This basic law says that the resolution (or sharpness) of an image cannot be better than approximately half the wavelength of the light waves being used to make it. Similarly, when light is used to inscribe patterns on microchips - a standard process known as lithography - these features can't get much more narrow than about a quarter the wavelength of the light.

Now scientists at the University of Maryland have pushed this limit, achieving pattern features with a size as small as one-twentieth of the wavelength."

[Speeding up broadband spectroscopy](#)

Nanowerk

May 17, 2010

"Spectroscopy, or the comprehensive measurement of light emissions coming from an object, is the cornerstone of many scientific studies. The spectrum of a sample - whether it comes from a star, a dilute protein solution, or the polluted air of a city street - consists of the measured frequency of all the light absorbed or emitted by the sample, though sometimes it is difficult to accurately measure all frequencies."

[Glass electrodes used in nanoscale pump](#)

PhysOrg

May 17, 2010

"A team of engineers from the U.S. and South Korea has developed what is believed to be the smallest man-made pump ever built, powered by a glass electrode. The pump is about the same size as a red blood corpuscle.

While glass does not normally conduct electricity, the team discovered a few years ago that at the nanoscale glass can conduct electricity without breaking. They have now used the property to solve a problem inherent in nanodevices, which is the difficulty of integrating wires into them to provide the required electrical current."

[Nanotechnology Breath Sensor Detects Diabetes and Potentially Serious Complication](#)

AzоНano

May 19, 2010

"Scientists are reporting development and successful testing of a sensor that can instantly tell whether someone has Type I diabetes. It could also be used by emergency room doctors to

determine whether a patient has developed diabetic ketoacidosis, a potentially serious complication that happens when diabetics do not take enough insulin.

Someday the technology may also be used by diabetics, in their own homes, to determine whether they need more insulin. A report on the sensor appears in ACS' Analytical Chemistry, a semi-monthly journal: 'Si:WO₃ Sensors for Highly Selective Detection of Acetone for Easy Diagnosis of Diabetes by Breath Analysis.' "

Also noted by [Nanowerk](#).

[Mapping tumor heterogeneity with quantum dots](#)

Nanowerk

May 21, 2010

"One important discovery made about cancer over the past decade is that as a tumor develops, the molecular identity of its cells begins to diverge. As a result, any given tumor is likely to contain groups of cells with differing genetic makeup, growth rates, and more importantly, susceptibility to specific drug therapies. Now, using a mixture of four quantum dots linked to antibodies that can detect cancer-associated proteins, a research team from Emory University has developed a method for mapping the molecular heterogeneity of human prostate tumor biopsies obtained from cancer patients. This method should be applicable to other types of tumors."

[Self-assembling gold nanoparticles use light to kill tumor cells](#)

Nanowerk

May 21, 2010

"A variety of studies by numerous investigators are demonstrating that gold nanoparticles have real promise as anticancer agents. When irradiated with light, gold nanoparticles become hot quickly, hot enough to generate explosive microbubbles that will kill nearby cancer cells, a physical process known as the photothermal effect. To boost this approach, researchers at the University of California, Los Angeles, have developed a method for creating supramolecular assemblies of gold nanoparticles that function as highly efficient photothermal agents of a size designed to optimize their delivery to tumors."

[Potential for new nanoparticle-based cancer detection](#)

Nanowerk

May 21, 2010

"Recent studies support the idea that the standard methods of screening men for prostate cancer leave much to be desired, particularly in terms of their inability to have much effect on prostate cancer survival. Now, a team of investigators at the University of Missouri School of Medicine have created a targeted gold nanoparticle that appears to offer a more sensitive and accurate method for detecting early stage prostate cancer. These nanoparticles may also be useful for detecting lung and breast cancers, too."

[Nanoporous particles deliver novel molecular therapies to tumors](#)

Nanowerk

May 21, 2010

"Using nanoporous silicon particles, two teams of investigators have created drug delivery vehicles capable of ferrying labile molecular therapies deep into the body. Both groups believe their new drug delivery vehicles create new opportunities for developing innovative anticancer therapies . . .

To reduce the number of injections needed, Dr. Ferrari and his colleagues decided to load their nanoparticle-siRNA construct into the pores of biocompatible nanoporous silicon particles. They then injected their drug delivery vehicle into mice with human ovarian tumors.

[New invention regulates nerve cells electronically](#)

Nanowerk

May 21, 2010

"A major step toward being able to regulate nerve cells externally with the help of electronics has been taken by researchers at Linköping University and the Karolinska Institute in Sweden. The breakthrough is based on an ion transistor of plastic that can transport ions and charged biomolecules and thereby address and regulate cells."

[Stretchy and conductive nanotechnology composite for robot skin and strain sensors](#)

Nanowerk

May 24, 2010

"Electrically conductive composite materials capable of substantial elastic stretch and bending - conductive rubbers - is an industrially important field. The composites are needed for such applications as smart clothing, flexible displays, stretchable circuits, strain gauges, implantable devices, high-stroke microelectromechanical systems (MEMS), and actuators."

[The Steady Drum Beat of Nanotechnology Regulation](#)

Nanotechnology Now.com

May 23, 2010

John DiLoreto

"A meeting of the FIFRA Scientific Advisory Panel last fall was one of the few times the Office of Pesticide Programs (OPP) publicly addressed nanotechnology and that was only in response to a citizen petition. In a presentation by OPP's Senior Policy Advisor, William Jordan, at the Pesticide Program Dialogue Committee meeting in April, acknowledged that at least one unnamed product on the market contained nanosilver but it was approved without the knowledge that it contained a nanomaterial. The product had been registered as a material preservative like many other registered silver products.

Jordan also conceded that there are probably other registered pesticides that contain nanoscale materials and indicated that OPP will attempt to identify these products and take appropriate regulatory action. There are several pending nanopesticides applications containing nanosilver and at least one product is pending which contains halloysite, a naturally occurring

aluminosilicate nanotube."

[Excessive use of toxic materials in medical nanotechnology could be avoided](#)

Nanowerk

May 24, 2010

"Metal nanomaterials are often synthesized using the toxic reagent formaldehyde at concentrations thousands of times higher than necessary. Many of these same nanomaterials are being investigated for use in cancer treatment - however, there is a risk that they could do more harm than good. The large excess of formaldehyde that is used originates from methods developed 100 years ago. Because these methods work well, they have stood the test of time. By better understanding the role that formaldehyde plays in nanomaterial synthesis it will become possible to reduce or eliminate this toxic reagent. By eliminating formaldehyde it will become safer to prepare these nanomaterials and safer to use them in cancer treatment."

[Other \(science\) issues related to nanotechnology](#)

[Hiding Risks Can Hurt Public Support for Nanotechnology, Survey Finds](#)

Science Daily

May 4, 2010

"A new national survey on public attitudes toward medical applications and physical enhancements that rely on nanotechnology shows that support for the technology increases when the public is informed of the technology's risks as well as its benefits - at least among those people who have heard of nanotechnology."

[Nanomachinery gets a spring in its step](#)

RSC

May 4, 2010

"Molecular springs that always twist the same way are the latest addition to the nanomachinery toolbox. Developed by Japanese researchers, the springs can rotate microscopic objects in specific directions - something which may be useful in chiral systems such as liquid crystals.

Several muscle-like molecules have been developed that can move objects at the nanoscale - but reliably twisting in a single direction, to the left or right, is more difficult."

[Advanced shrinkable plastic material using nanotechnology](#)

Plastemart.com

May 4, 2010

"Shrink Nanotechnologies, Inc. has announced launch of its proprietary advanced shrinkable plastic material which is being branded under the name NanoShrink.

Shrink exclusively owns the licensing rights to numerous patent-pending technologies which are based on its proprietary manufacturing process which includes the integration of various critical features that function at the "nano" scale. These technologies and products will all be based, designed and deployed on NanoShrink material."

[Nanotechnology is Quietly Transforming Electric Car Batteries](#)

BNET

May 4, 2010

Jim Motavalli

" 'Nanotechnology' has been a brave new world buzzword for a decade, but its many applications in clean technology - from solar panels to EV batteries - are just now emerging. A new report from Lux Research sees a \$29 billion clean tech nanotech market in 2015."

[Solar cell breakthrough](#)

Off-Grid.net

May 4, 2010

"Nanotechnology has come to the rescue of the solar industry - and not a moment too soon. Solar cells have long been a favorite of people trying to reduce or eliminate their energy bills. Yet throughout its history, the relatively expensive up-front costs of obtaining photovoltaic cells has deterred many from investing in the technology. Now scientists from the California Institute of Technology (Caltech) have developed a new solar cell that will cost a tiny fraction of current prices."

[Environmental, Health, and Safety Agencies Set Rulemaking Agendas](#)

OMB Watch.org

May 4, 2010

" . . . EPA

The U.S. Environmental Protection Agency (EPA) led all individual agencies with 342 agenda items. EPA added 43 new entries since its last agenda was published. Among them are a proposal to limit greenhouse gas emissions from heavy-duty vehicles, an update to the Chemicals of Concern list to include the consumer product chemicals bisphenol-A and phthalates, and proposed standards for the use of nanoscale materials."

[Diagnosing heart attacks may be a lick and a click away](#)

Bioscience Technology

May 4, 2010

"A diagnostic tool developed by Rice University scientists to detect heart attacks using a person's saliva is being tested at the Michael E. DeBakey VA Medical Center (MEDVAMC) in collaboration with Baylor College of Medicine (BCM) in Houston.

John T. McDevitt, professor of chemistry and bioengineering at Rice, and his team of researchers at Rice's BioScience Research Collaborative have developed a microchip sensor, the Nano-Bio-Chip, which processes saliva and yields on-the-spot results. McDevitt intends to establish Houston as the hub of a biomarker highway where Nano-Bio-Chips will be configured to diagnose a variety of diseases."

[Scientist Shows How To Beat Toxic Nanoparticles](#)

Red Orbit.com

May 5, 2010

"An Australian scientist will be honored tomorrow for her work in helping to ensure that humans will not have to live with the dangers of toxic nanoparticles.

Dr Amanda Barnard, will receive the Australian Academy of Science's 2010 Frederick White Prize for her world-leading research into how nanoparticles will react in different environments, which is aimed at guarding the Earth against pollution from a new category of potentially hazardous materials."

[EU votes for labels on nano, cloned and GM food](#)

The Ecologist

May 5, 2010

"UK and other member states expected to fight proposals to bring in compulsory labelling for consumers on novel foods.

MEPs have voted almost unanimously in favour of introducing compulsory labelling on food containing nanoparticles, meat from cloned animals and animals fed on genetically modified (GM) feed."

[Air Force Treating Wounds With Lasers and Nanotech](#)

Wired

May 5, 2010

Katie Drummond

"Forget stitches and old-school sutures. The Air Force is funding scientists who are using nanotechnology and lasers to seal up wounds at a molecular level.

It might sound like *Star Trek* tech, but it's actually the latest in a series of ambitious Pentagon efforts to create faster, more effective methods of treating war-zone injuries."

[Rise in VC Fundings Shows Nanomedicine is Heating Up](#)

BioWorld Today

May 6, 2010

Cormac Sheridan

"CHICAGO - Venture capital investment in nanomedicine hit \$64 million in the first quarter of this year, compared with a total of \$135 million for the whole of 2009. Deal completion is also well up on last year. The first quarter total represents seven transactions, and just 14 were completed in 2009.

'We're already on track to more than double the amount of financing into nanomedicine from venture capital investors,' Jeffrey Quillen, head of the life sciences practice at Boston-based law firm Foley Hoag LLP told attendees at a Wednesday morning BIO breakout session on

nanomedicine."

[Metallic Nanoparticles with Coated Shells Generate Heat When Exposed to Radio Waves And Destroy Cancer Cells in Minutes](#)

Before It's News.com

May 6, 2010

Alton Parrish

"A method for treating cancer with radio waves and metallic nanoparticles with coated shells is disclosed in U.S. Patent Application 20100113861 by University of Arkansas inventors Dr. Alexandru S. Biris, Dr. Yang Xu, Dr. Zhongrui Li and Romanian National Institute of R&D for Isotopic and Molecular Technologies scientist Alexandru R Biris. The treatment can destroy cancer cells in minutes.

Dr. Alex S. Biris leads the research at the Nanotechnology Center at the University of Arkansas Little Rock and is exploring the science of nanostructures that can be used to alter the properties of other substances at the atomic level."

[Nanotechnology System Provides Sustained Delivery Of siRNA Cancer Therapeutic In Mice](#)

Before It's News.com

May 6, 2010

Alton Parrish

"New research by scientists at The University of Texas Health Science Center at Houston and the University of Texas M. D. Anderson Cancer Center could make it easier for patients to use a family of promising experimental cancer therapeutics known as small interfering RNA.

In the May 1 issue of *Cancer Research*, the scientists reported that a multistage nanovector system for the delivery of siRNA significantly lengthened the therapeutic effects of the treatment in two independent mouse models of advanced ovarian cancer."

[Is water the key to cheaper nanoelectronics?](#)

New Scientist

May 6, 2010

Colin Barras

"Water and electronics don't usually mix. But a splash of the wet stuff could help make nanoelectronic manufacturing both quicker and cheaper.

Today's electronic circuit boards already include nanoscale components, but they are tricky to make. To get complicated nanostructures on a silicon chip it is sometimes necessary to [grow them in separate layers and then transfer these one by one onto the final chip](#) (PDF) to build them into working components."

[Casting nanowires](#)

RSC

May 7, 2010

"Novel nanomaterials can be made using ancient casting technology, claim Chinese Scientists.

Titanium carbide nanowires are important non-oxide ceramic materials that have high melting points, hardness and resistance to corrosion which have many applications including catalysis, microelectronics and hydrogen storage. Existing methods to synthesis them involve using other nanotubes as templates or reactions catalysed by nanoparticles but these give little control over the purity, shape, size, aspect ratio, crystal orientation and structure in the resulting nanowires."

[The Challenge of Wiring Thousands of Tiny Nanosensors](#)

Medgadget

May 7, 2010

"Akram S. Sadek, a Caltech graduate student in the Computation & Neural Systems program, has an article in *Nanowerk* describing his research team's work in developing a method to connect thousands of neural nanosensors to each other and to an outside controller. The problem is that by using conventional wiring methods to link large numbers of very small components, the size of the wiring itself grows out of control."

[At the nanoscale level, electrons can push atoms around](#)

Ars Technica

May 9, 2010

Casey Johnston

"In a paper published in *Science* this week, a group of researchers showed that an electrical current run through a nanoscale metal wire can actually cause some of the wire's atoms to flow backwards against the current. The effect is larger for smaller particles, and is yet another issue scientists will have to take into account when making tiny electronic devices.

Scientists had previously noticed some odd behavior in nanoscale metal wires when currents passed through them, including structural changes. When they watched a charged silver wire using a scanning tunneling microscope, they found that some silver 'islands,' between two and 50 nanometers in size, sometimes moved in the opposite direction from the current."

[Smart pill only 10 years away](#)

TechEye.net

May 10, 2010

Mike Magee

"Luc Van Den Hove, the CEO of IMEC, gave a most interesting talk called Nano-Electronics: Shaping our Future, here in Dresden today.

He said that silicon technology is governed by exponential rules. The vision of being connected at anytime has clearly been realised and we can now connect to anyone in the world using these virtual networks. He said that while user interfaces will have to become much more user

friendly.

But the development of silicon capabilities is set to flood into other areas too."

[Our editor nominated for award](#)

Solid Wast & Recycling (Canada)

May 10, 2010

"Our Editor Guy Crittenden has been chosen as one of ten finalists in the Best Editorial category of this year's Kenneth R. Wilson Awards (KRW Awards) for his article "Nano! Nano!" that appeared in the February/March 2009 edition of *Solid Waste & Recycling* magazine. The article (reproduced below) describes the risk to human health and the environment from new high-tech nanotechnology materials and related wastes."

[Heartbeat can power pacemaker](#)

Lazybuzz.com

May 10, 2010

"Hyderabad, May 10: A team of Indian medical researchers has developed a model that uses body's own energy to recharge life-saving medical implants like pacemakers, defibrillators and neurotransmitters for as long as 30 years.

Pacemakers and defibrillators are implanted in persons with severe heart ailments, while neurotransmitters are used in Parkinson's patients. Currently, pacemakers and defibrillators use batteries that need to be replaced at regular intervals through painful surgical procedures. The average lifespan of these batteries is five to eight years."

[Israeli researchers claim nanotechnology icing breakthrough](#)

FlightGlobal

May 18, 2010

Ari Egozi

"Israeli nanotechnology researchers claim to have developed a surface coating capable of preventing ice accumulation on plastic aircraft surfaces.

Professor Hana Dodiuk of the Shenkar College of Engineering says that tests on clear plastic show the self-cleaning, ultra-hydrophobic coating has a very low surface energy that reduces ice adhesion by 20 times compared with untreated surfaces."

[10 nano-engineered gadgets to make the trend soon](#)

The DesignBlog.org

May 18, 2010

Naresh Chauhan

"Nanotechnology or nanotech, the study of the controlling of matter on an atomic and molecular scale, has brought about a revolution in the field of science and technology, for it has the

potential to create many new materials and devices with a vast range of applications, such as in medicine, electronics and energy production. Designers have taken a leaf from nanotech and have created gadgets that are worth appreciation, and here we have listed a few for your delight."

[New Nanotech Discovery at Rensselaer Polytechnic Institute Could Lead to Breakthrough in Infrared Satellite Imaging Technology](#)

Rensselaer Polytechnic Institute

May 18, 2010

"Researchers from Rensselaer Polytechnic Institute have developed a new nanotechnology-based 'microlens' that uses gold to boost the strength of infrared imaging and could lead to a new generation of ultra-powerful satellite cameras and night-vision devices."

[Nanotech will be focus for future criminal hackers](#)

NetworkWorld.com

May 19, 2010

M. E. Kabay

"Criminal hackers once rejoiced in manipulating the new digital phone systems in the 1960s and 1970s; then they moved on to using modems and hacking into mainframes in the 1970s and 1980s; then they exploited the new local area network technology and the burgeoning Internet in the 1980s. Malware writers moved from boot-sector viruses on floppy disks in the 1980s to file-infecting viruses and then to macro viruses in the 1990s and vigorously exploited worms and Trojans for botnets in the recent decade . . . So what's next on the horizon?"

[Nanoscale discovery brings 'lab on a chip' devices closer to reality](#)

DNAIndia.com

May 19, 2010

"London: Making a breakthrough in "lab on a chip" technology, a University of Michigan biomedical engineering professor has discovered a new instance of such a nanoscale phenomenon that could lead to faster, less expensive portable diagnostic devices.

In our macroscale world, materials called conductors effectively transmit electricity and materials called insulators or dielectrics don't, unless they are jolted with an extremely high voltage."

[Liora Manne to debut fabric line](#)

HomeTextilesToday.com

May 20, 2010

"New York - The new decorative fabric collection created by textile and product designer Liora Manne will have its formal debut at Showtime in High Point, N. C. next month.

The company will have a show space in Suites at Market Square featuring more than 22 fabric patterns and solid colors using the designer's patented Lamontage textile design process.

Lamontage is a 20-year-old process for rugs and fabrics made with acrylic fibers. The fibers are intricately structured by hand, then mechanically interlocked by needle-punching to create non-

woven fabrics that resemble felt. Using nanotechnology, an EPA approved anti-microbial finish is permanently embedded into the fabric - preventing the growth of mildew."

[Carbon Nanospheres Superior to Carbon Nanotubes and Cheaper to Manufacture Say Headwater Technology Scientists](#)

Before It's News.com

May 20, 2010

Alton Parrish

"Headwaters Technology Innovation, LLC (Lawrenceville, NJ) earned U.S. Patents 7,718,155 and 7,718,156 for a method for manufacturing grape-like carbon nanostructures by catalytic templating nanoparticles. The carbon nanostructures have minimal surface functional groups that have superior qualities compared to carbon nanotubes. The carbon nanostructures are particularly advantageous for some applications where high porosity, high surface area, and/or a high degree of graphitization are desired. Carbon nanostructures manufactured can be substituted for carbon nanotubes, which are typically more expensive to manufacture."

[Food industry too secretive over nanoparticles](#)

NaturalNews.com

May 21, 2010

David Gutierrez

"The food industry is being too secretive about the extent to which it has adopted nanotechnology, according to a report by the United Kingdom's House of Lords Science and Technology Committee.

The industry is 'very reluctant to put its head above the parapet and be open about research on nanotechnology,' said study chairperson Lord John Krebs."

[Oxford research could lead to biological motors](#)

The Engineer (U.K.)

May 21, 2010

Siobhan Wagner

"A new biological approach for power generation of extremely small mechanical components is being investigated by a UK and European consortium.

The Nanocell group, which is being funded under a part of the European Science Foundation's European Collaborative Research Scheme, believes such biological means for power generation will help advance the science of bio-nanotechnology - a wide ranging field with applications including molecular machines, biosensors and self-assembled nanostructures."

[At the Dawn of a New Technology](#)

Institute for Ethics and Emerging Technologies

May 23, 2010

Andrew Maynard

"One of the most anticipated technological breakthroughs in years hits the streets, and I'm completely off the web - holed up in an Italian hotel with no Internet and no phone.

I'm talking of course about J. Craig Venter's team's breakthrough in synthesizing a living organism, almost from scratch - published in the journal *Science* on Thursday and speculated on by everyone from Nobel laureates to Vatican officials since."

[Self-replicating nanobots](#)

NetworkWorld.com

May 24, 2010

"This is the second of two articles looking at nanotechnology as a future technological risk.

One of the scariest issues I can think of with respect to nanotechnology is self-replicating nanobots. The prospect of losing little machines that can copy themselves without specific external control raises the specter of "The Sorcerer's Apprentice" and Mickey Mouse in that role in Disney's 1940 animated film, *Fantasia*

For science fiction fans, there are many examples of self-replicating machines to titillate or terrify; the replicators in the Stargate universe come to mind."

[Nanoscale glass conductors for new class of lab-on-chip devices](#)

MTB Europe.com

May 24, 2010

"Dr Alan Hunt of the University of Michigan has discovered a new electrical phenomenon that only acts at the nanoscale and could lead to faster, less expensive lab-on-a-chip diagnostic devices.

Dr Hunt, an associate professor in the Department of Biomedical Engineering, and his research team were able to get an electric current to pass nondestructively through a sliver of glass, which isn't usually a conductor. The finding has been published in the journal *Nature Nanotechnology*."

The Humorous, Fascinating & Unique

[Coffee Rings May Hold the Secret for Nanofabrication Processes](#)

AzоМ.com

May 6, 2010

"The field of biosensing has recently found an unlikely partner in the quest for increased sensitivity: coffee rings.

The next time you spill your coffee on a table, look at the spot left after the liquid has evaporated, and you'll notice it has a darker ring around its perimeter that contains a much higher

concentration of particles than the center.

Because this 'coffee ring' phenomenon occurs with many liquids after they have evaporated, scientists have suggested that such rings can be used for examining blood or other fluids for disease markers by using biosensing devices. But a better understanding of how these rings behave at the micro- and nano-scale would probably be needed for practical bionsensors."

[The advancement of Homo sapiens to Homo cyberneticus](#)

Nanotechnology Now

May 9, 2010

Matthew Hynd

"The convergence of neuroscience and nanotechnology holds promise for the successful development of electronic devices capable of directly interfacing with the central nervous system (CNS). In particular, neural prosthetic devices have become a powerful clinical strategy for the treatment of a variety of neurological disorders, including those sustained as a result of traumatic brain injury, epilepsy and Parkinson's disease (PD). Our research will have a substantive impact on the future abilities of health-care professionals to prevent or ameliorate the effects of neurological disorders using chronically-implanted neural prosthetic devices."

[Atomic force microscopy to detect internal live processes in insects](#)

Nanowerk

May 14, 2010

"A team of Clarkson University scientists led by Prof. Igor Sokolov are using atomic force microscopy (AFM) to record sounds emanating from inside living insects like flies, mosquitoes and ladybugs.

AFM is one of major scientific tools responsible for the emergence of modern nanotechnology."

Also noted by [Discovery News](#).

[Clever Photosynthetic Breathing Building 'Skin' to Cut Need for Energy](#)

CleanTechnica.com

May 14, 2010

Susan Kraemer

"Bringing bioengineering to architecture, UC Berkeley Professors Luke Lee in Bioengineering and Maria-Paz Gutierrez in the architecture department are pioneering a new type of thin film building membrane, creating a material structured at the nano and micro scale that can substitute for energy used for climate control in buildings.

In a project recently proposed to the National Science Foundation, they are working on a 'skin' that works like nature's skins to control humidity, light and heat in buildings the same way that nature does in our skin, without the use of electricity or mechanical elements.

[How do spiders spin?](#)

Nanowerk

May 14, 2010

"Five times the tensile strength of steel and triple that of the currently best synthetic fibers: Spider silk is a fascinating material. But no one has thus far succeeded in producing the super fibers synthetically. How do spiders form long, highly stable and elastic fibers from the spider silk proteins stored in the silk gland within split seconds? Scientists from the Technische Universitaet Muenchen (TUM) and the University of Bayreuth have now succeeded in unraveling the secret. They present their results in the current issue of the prestigious scientific journal *Nature* ("A conserved spider silk domain acts as a molecular switch that controls fibre assembly").

[Nanotechnology: An Audi that repairs itself](#)

TG Daily

May 18, 2010

Mike Luttrell

"Got a couple of dings and scratches in your car? Paint chipping away a bit? These would never be problem again if a very high-concept Spanish designer had his say.

Daniel Garcia has created a concept for a new luxury Audi that uses nanotechnology to enable the car to literally repair itself.

[Photo contest challenges nanotechies to narrow focus](#)

MassHighTech.com (blog)

May 19, 2010

Rodney H. Brown

"Talk about macrophotography. The German optics giant Carl Zeiss Group, through its electron and ion-beam microscope unit based in Peabody, is launching the world's first nanoscale photography challenge, the Carl Zeiss Nano Image Contest.

While you won't be able to whip out your Canon Rebel TSi digital SLR, if you happen to have a scanning electron microscope or an ion-beam model sitting around the house, you too can get a chance at winning a cinemizer PLUS 3D video viewer from Carl Zeiss."