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**Center for Nanotechnology in Society**  
**University of California, Santa Barbara**  
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**Weekly Clips**  
**August 17, 2009 - September 7, 2009**

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1) Bulgaria Scraps IBM Nanotechnology Center to Curb Spending  
Nano and Development News | August 17, 2009  
<http://www.merid.org/NDN/more.php?id=2079>

The country of Bulgaria has announced that it will not be able to afford the nanotechnology center that the former government approved in May 2009. The Bulgarian Finance Minister, Simeon Djankov, said the center, which was a partnership between the country and IBM Bulgaria, had fallen prey to the need to curb state expenditures. The state budget could save US\$36 million by not launching the nanotechnology center, according to Djankov. He said that Bulgaria's main strategic goal was to join the Eurozone and, "[W]ith our lack of money, we cannot afford a nanotechnology center. We have a big problem because our state spending grew by 30% in the first half of 2009."

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## 2) Nanotubes Promise Ultra-Small Wearable Oxygen Sensors

Nano and Development News | August 17, 2009

<http://www.merid.org/NDN/more.php?id=2081>

Researchers at the University of Pittsburgh and the National Energy Technology Laboratory, both in the United States, have created tiny oxygen-sensing devices made from carbon nanotubes. The devices could be used as low-power, wearable gas sensors that could benefit those working in confined spaces, such as mines, submarines, and space shuttles, where the monitoring of oxygen concentrations is essential for survival. The team endowed the nanotube networks with oxygen-sensing capabilities by "decorating" them with europium-containing complexes...

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## 3) Scientists Develop Self-Cleaning Material

Nano and Development News | August 18, 2009

<http://www.merid.org/NDN/more.php?id=2082>

Scientists at Purdue University, United States, have developed a new coating for glass, plastics, and a range of other materials, that would allow consumers to clean oily smears from these products with plain water. Jeffrey Youngblood, Ph.D., the project's lead researcher, says "[Y]ou add water, and the oil just comes right off like magic. These are eco-friendly coatings - environmentally 'green' in the sense that they eliminate the need for harsh detergents and solvents in settings ranging from home kitchens to industrial machine shops that must contend with heavy oil spills."

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## 4) A Chinese Team Raises The Alarm, Showing For The First Time That Nanoparticles Are Clinically Toxic To Humans

Medical News Today | August 19, 2009

<http://www.medicalnewstoday.com/articles/161161.php>

Nanotechnologies are producing impressive results in an ever increasing number of sectors and their market could reach a value of 200 billion euros in 2010. However, the nanoparticles on which they are based pose a serious risk to the lungs, even more so than the notorious ultrafine particles present in air pollution. This is the groundbreaking message of the Chinese study published in the forthcoming issue of the European Respiratory Journal (ERJ), the scientific peer-reviewed publication of the European Respiratory Society. Not only did exposure to nanoparticles in adhesive paint cause severe pulmonary fibrosis in a group of young female workers...

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## 5) Ten things you should know about nanotechnology

Nanowerk | August 20, 2009

<http://www.nanowerk.com/spotlight/spotid=12237.php>

Sometimes we get bombarded with emails from people who are new to the field about certain aspects of nanotechnology – can it cure cancer? Where can I buy nanobots? What is a nanomaterial? Is nanotechnology dangerous? And so forth. You get the idea. The question asked most often is simply this: "What is nanotechnology?"

That's why we have decided to add a new segment to our Nanowerk website that we call "Ten things you should know about nanotechnology."

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#### 6) Understanding and Acknowledging the Risks Associated with Nanotechnology

AZoNano.com | August 21, 2009

<http://www.azonano.com/details.asp?ArticleId=2353>

Nanotechnology is widely regarded as one of the most important sources of new technology over coming decades and its development will impact upon a broad range of industries and end-users. However, there are also ethical, legal, policy and social issues that need to be considered if the potential benefits of nanotechnology are to be realised in a safe and effective way...

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#### 7) Nano-Sunscreens: Issue continues to be controversially discussed

Nanowerk | August 21, 2009

<http://www.nanowerk.com/news/newsid=12256.php>

Only a few days after the release of the Environmental Working Group's (EWG) "2009 Sunscreen Investigation" report, a coalition of public interest groups including Friends of the Earth (FoE), Consumers Union and the International Center for Technology Assessment (CTA) have taken position in the highly controversial debate about the safety of sunscreens containing manufactured nanomaterials. Unlike in the EWG investigation, the new FoE report cites "top reasons for precaution" and says "it's clear that sunscreens containing nanomaterials are not worth the risk"...

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#### 8) It's a small world

Otago Daily Times | August 22, 2009

<http://www.odt.co.nz/lifestyle/magazine/70715/it039s-a-small-world>

Nanotechnology is predicted to change our lives, environment and our societies as much as the computer has done. Charmian Smith looks at some of the promises and risks in what is happening down at the incredibly small level of matter...

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#### 9) Church of England fights fiddlers on the roof

Times Online | August 23, 2009

<http://www.timesonline.co.uk/tol/news/science/article6806469.ece>

HE Church of England is using nanotechnology – the science of very small things – to fight thieves who strip lead and other valuable metals from the roofs of its ancient buildings. More than 30,000 of Britain's 44,000 churches have had their roofs coated in a layer of "nanopaint", which is visible only under ultraviolet light...

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#### 10) Global Leader in Molecular Imaging Enhances Photon Detection Offerings

Nanowerk | August 24, 2009

<http://www.nanowerk.com/news/newsid=12284.php>

PerkinElmer, Inc., a global leader focused on improving the health and safety of people and the environment, announced that it has entered into an exclusive agreement with Max Planck Innovation, the technology transfer

organization of the Max Planck Society, for the licensing of its ultra-fast, low cross-talk solid state silicon photomultiplier (SiPM) technology...

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#### 11) SCHEV approves VCU Nanoscience and Nanotechnology Program

NanoTechWire | August 25, 2009

<http://nanotechwire.com/news.asp?nid=8449>

Virginia Commonwealth University has received approval from the State Council of Higher Education for Virginia to offer an interdisciplinary doctoral degree program in nanoscience and nanotechnology, making VCU the first major research university in the state to offer such a program, and one of only a handful of programs in the United States...

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#### 12) Converging technologies for 21st century security

Nanowerk | August 26, 2009

<http://www.nanowerk.com/news/newsid=12317.php>

Organised crime, terrorism, civil conflict, and natural disasters are sadly commonplace in global society and have developed increasingly complex dimensions. To counter such threats, civil security and emergency response teams are looking towards new technologies that offer more sensitive, rapid, and accurate detection methods; that provide the means to neutralise or effectively deal with the outcomes of such incidents; and that provide greater protection to personnel...

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#### 13) Lower-Cost Solar Cells to be Printed like Newspaper, Painted on Rooftops

Nano and Development News | August 26, 2009

<http://www.merid.org/NDN/more.php?id=2100>

A University of Texas, United States, chemical engineer is hoping to cut the costs of standard solar cell manufacturing costs to one-tenth of their current price, by replacing them with solar cells that could be printed like newspaper or painted onto the sides of buildings or rooftops. Brian Korgel has been working to develop a low-cost, nanomaterial solution to photovoltaic manufacturing, and he and his team have developed nanoparticle "inks" that can be printed on a roll-to-roll printing process on a plastic substrate or stainless steel...

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#### 14) Nanotechnology: Innovation vs. Corporate Welfare

Washington Examiner | August 26, 2009

<http://www.washingtonexaminer.com/opinion/blogs/Examiner-Opinion-Zone/Nanotechnology-Innovation-vs-Corporat>

Nanotechnology – the art and science of manipulating matter at the scale of 1 to 100 nanometers – is a field with seemingly limitless potential. But if researchers and politicians = are not careful, that potential will vanish. Nanotech firms have a choice between being entrepreneurs, or being corporate welfare recipients. Their choices they make today could determine whether the future of nanotech is one of dynamism and innovation, or one of dull, bureaucratic stasis...

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#### 15) Environmental Effects of Nanotechnology and Nanomaterials

AZoNano.com | August 27, 2009

<http://www.azonano.com/news.asp?newsID=13344>

The fourth international conference on "Environmental Effects of Nanoparticles and Nanomaterials" will be held in Vienna, Austria from September 6 to 9, 2009. Distinguished scientists from America, Asia and Europe will convene for scientific presentations and discussions concerning both the potential environmental hazards and the potential advantages of nanotechnology. A presentation open to the general public will also be held on the evening of Monday 7, 2009, at which renowned scientists will evaluate the risks and the potential of this exciting new technology, concluding with a podium discussion...

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16) Laser-controlled corrosion protection with 'smart' nanomaterials

Nanowerk | August 27, 2009

<http://www.nanowerk.com/spotlight/spotid=12335.php>

About a year ago we reported on self-healing nanotechnology anticorrosion coatings, a novel method of multilayer anticorrosion protection including the surface pre-treatment by sonication and deposition of polyelectrolytes and inhibitors, developed by researchers at the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany. The main novelty of the proposed system was the multi-level protection approach, where the protective systems – the 'smart' multilayers – will not only be a barrier to external impacts, but also respond to changes in their internal structure, and combine in the same system different damage prevention and repair mechanisms...

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17) Polymer smart materials as sensors to detect biological materials and pollutants

Nanowerk | August 27, 2009

<http://www.nanowerk.com/news/newsid=12336.php>

A University of York scientist has been awarded a Royal Society Dorothy Hodgkin Fellowship for her research on smart polymer materials that could eventually be used as sensors to detect biological materials and pollutants...

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18) NRF grants for Singapore high-tech research

Nanowerk | August 27, 2009

<http://www.nanowerk.com/news/newsid=12340.php>

Six project proposals from the Nanyang Technological University (NTU) have received research funding from the National Research Foundation (NRF), following its second call for proposals under the Proof of Concept (POC) scheme. To date, a total of nine NTU projects are funded under the POC scheme. This reflects the significant role that NTU plays in leading Singapore's drive for research and development (R&D) into new ideas, innovation and entrepreneurship...

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19) Industrial Nanotech Receives Reorder of Nansulate Coating from Government Customer

AZoNano.com | August 27, 2009

<http://www.azonano.com/news.asp?newsID=13349>

Industrial Nanotech, Inc. (Pink Sheets:INTK), a global nanoscience solutions and research leader and member of the U.S. Greenbuilding Council and the American Solar Energy Society, today announced that the company has received a reorder of their patented Nansulate® LDX lead encapsulation coating from a government customer in Portsmouth, Virginia. The order will ship immediately from the Company's warehouse...

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20) Nanotechnology and the environment: A mismatch between claims and reality

EurActiv | August 28, 2009

<http://www.euractiv.com/en/science/nanotechnology-environment-mismatch-claims-reality/article-184907>

“Nanotechnologies are presented as providing unprecedented technological solutions,” yet “serious environmental risks and costs are being trivialised or ignored,” the International Persistent Organic Pollutants Elimination Network (IPEN) argues in a new paper. A paper from the network’s Nanotechnology Working Group (NWG) evaluating the environmental, economic and health impacts of nanotechnology, recalls that the OECD suggests that nanotechnology offers environmental benefits. But this assertion is “not borne out by reality and environmental claims are consistently ignored,” it states...

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21) Ames nanochemist winner of 2010 Adamson Surface Chemistry Award

Nanowerk | August 31, 2009

<http://www.nanowerk.com/news/newsid=12383.php>

Pat Thiel, senior chemist at the U.S. Department of Energy’s Ames Laboratory, has been named the winner of the 2010 Arthur W. Adamson Award for Distinguished Service in the Advancement of Surface Chemistry. The award, sponsored and presented annually by the American Chemical Society, recognizes distinguished service in the advancement of surface chemistry...

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22) New Degree, New Curriculum, New Horizons

Nanotech News | August 31, 2009

<http://www.nanotech-now.com/columns/?article=349>

Heraclitus, a 6th century BC Greek philosopher, once said, "There is nothing permanent except change." A change in the academic landscape took place in early June 2009 when the New York State Education Department approved a comprehensive baccalaureate program in Nanoscale Science at the College of Nanoscale Science and Engineering (CNSE) of the University at Albany...

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23) Scared by "Frankenfoods"? Just Wait for Nanofoods

The Big Money | August 31, 2009

<http://www.thebigmoney.com/blogs/daily-bread/2009/08/31/scared-frankenfoods-just-wait-nanofoods>

If you thought genetically modified food stirred controversy, just wait for "nanofoods." So far, warnings about nanofoods—products made via the manipulation of molecules—haven't reached a tipping point in terms of public attention. That's because there are so few such products actually on the market...

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24) Nanotechnology Coming to Your Store

Food Processing | August 31, 2009

<http://www.foodprocessing.com/articles/2009/066.html>

The anticipated impact of nanotechnology upon society is frequently referred to as the “second industrial revolution.” Rapid advances in nanotechnology promise to revolutionize many of the ways we manufacture products, produce energy, diagnose and treat diseases and increase global food production. The current number of food products using nanotechnology of any sort is relatively small. Nevertheless, hundreds of research projects are under way and tens of millions of dollars are being spent in a global race to apply nanotechnologies in food production, processing and packaging...

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25) Europe's first virtual infrastructure facility in micro- and nanotechnologies is ready for use

Nanowerk | September 1, 2009

<http://www.nanowerk.com/news/newsid=12415.php>

EUMINAFab offers open access to machines and know-how in micro- and nanotechnologies for users from science and industry. Today, this European infrastructure facility coordinated by KIT is starting operation: Ten leading institutions from research and industry in eight EU member states make available a total of 36 high-tech installations along with the corresponding scientific and technological expertise. Users are given cost-free access, provided that they agree to a publication of research results.

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26) Researchers design new graphene-based, nano-material with magnetic properties

Nanowerk | September 2, 2009

<http://www.nanowerk.com/news/newsid=12441.php>

An international team of researchers has designed a new graphite-based, magnetic nano-material that acts as a semiconductor and could help material scientists create the next generation of electronic devices like microchips...

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27) How deep will nanotechnology's impact be?

Nanowerk | September 2, 2009

<http://www.nanowerk.com/news/newsid=12445.php>

How deep will nanotechnology's impact be? Decide for yourself at the launch of the DEEPEN project's agenda-setting report at the Residence Palace, 155 rue de la Loi, Brussels, Belgium, on Monday, September 28, 2009. DEEPEN (Deepening Ethical Engagement and Participation in Emerging Nanotechnologies) is a three-year research project funded by the European Commission.

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28) Temperature determines which molecule rocks out

Nanowerk | September 3, 2009

<http://www.nanowerk.com/news/newsid=12450.php>

Scientists have long known that molecules dance about as the temperature rises, but now researchers know the exact steps that water takes with a certain molecule. Results with small, electrically charged cyanide ions and water molecules reveal that water zips around ions to a greater extent than expected. The findings improve our understanding of a chemical interaction important in environmental and atmospheric sciences...

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29) American Society for Nanomedicine (ASNM) to Hold First Conference

Reuters | September 4, 2009

<http://www.reuters.com/article/pressRelease/idUS183505+04-Sep-2009+PRN20090904>

Nanomedicine - the science and technology of diagnosing, treating and preventing disease to improve human health using nanotechnology - has the potential to revolutionize healthcare. Current and future products range from miniaturized "smart pills" that precision-target certain cancers to nanosensors that are capable of navigating through the body for early detection of disorders...

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30) Biophysical Society announces 2010 Society Fellows

Nanowerk | September 6, 2009

<http://www.nanowerk.com/news/newsid=12481.php>

The Biophysical Society is delighted to announce its 2010 Society Fellows. Fellows are chosen based on their demonstrated excellence in science, contributions to the expansion of the field of biophysics, and support of the Biophysical Society. The Fellows will be honored at the Awards Ceremony during the Biophysical Society's 54th Annual Meeting...

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31) More efficient microbial fuel cells

Nanowerk | September 7, 2009

<http://www.nanowerk.com/news/newsid=12482.php>

Bacteria that generate significant amounts of electricity could be used in microbial fuel cells to provide power in remote environments or to convert waste to electricity. Professor Derek Lovley from the University of Massachusetts, USA isolated bacteria with large numbers of tiny projections called pili which were more efficient at transferring electrons to generate power in fuel cells than bacteria with a smooth surface...

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32) Bacteria could be used for stronger, more durable bone implants

Nanowerk | September 7, 2009

<http://www.nanowerk.com/news/newsid=12483.php>

Bacteria that manufacture hydroxyapatite (HA) could be used to make stronger, more durable bone implants. Professor Lynne Macaskie from the University of Birmingham this week (7-10 September) presented work to the Society for General Microbiology's meeting at Heriot-Watt University, Edinburgh.

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33) A nanosensor to detect diseases

Nanowerk | September 7, 2009

<http://www.nanowerk.com/news/newsid=12492.php>

Researchers from the Basque technological centre CIDETEC-IK4, the Higher Centre for Scientific Research (CSIC) and the University of Berkeley (U.S.) have developed a highly sensitive electrochemical sensor that can detect possible mutations in DNA more quickly than has been possible in the past...

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