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## Center for Nanotechnology in Society

University of California, Santa Barbara

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

### WEEKLY CLIPS

February 2 – February 9, 2009



#### Risk-Management Policies Needed Now in Nanotechnology, *Insighter* Piece Concludes; FDLI Sponsors Nanotechnology Meeting, Publishes Book on FDA-Regulated Products

Companies that manufacture products containing nanomaterials must immediately institute high-quality risk management and product stewardship measures to limit potential liability exposure in the future, assert attorneys Jesse Ash, Antony Klapper and James Wood.

This issue will be thoroughly explored at FDLI's 2nd Annual Conference on Nanotechnology Law, Regulation and Policy, February 18-19, 2009, in Washington, D.C., and discussed in a book to be published by FDLI February 17, *Nanotechnology & FDA-Regulated Products: The Essential Guide*. At the conference, six top officials of the Food and Drug Administration will answer questions about how the new Administration intends to regulate nanotechnology products.

In their *Insighter* article on the Food and Drug Law Institute's website ([www.fdl.org](http://www.fdl.org)), Ash, Klapper and Wood, part of a team of more than two dozen attorneys involved in nanotechnology issues at the law firm of Reed Smith, note that while there has not been a single lawsuit filed where someone claimed injury because they were exposed to engineered nanomaterials, many scientists are raising questions regarding the manufacturing of nanomaterials and its effects on workforces, researchers and consumers. "For example," they write in the *Insighter* piece, "some scientists

wonder whether engineered nanomaterials will become the next asbestos."

The attorneys point out that a recent study indicated that certain types of carbon nanotubes, graphite-based structures commonly used in nanotechnology applications, both resemble and behave like asbestos fibers. Because they are as light as plastic and stronger than steel, carbon nanotubes will likely see use in a variety of new applications, including medical nanodevices. Based on toxicity studies, scientists found that inhaling long, thin multi-walled carbon nanotubes had the *potential*

to cause lung disorders similar to those caused by exposure to asbestos. Because there are many unanswered questions regarding risk, it is essential that companies follow the principles of good product stewardship activities and good risk management strategies in the design and manufacturing of products made with engineered nanomaterials, the authors conclude.

<http://sev.prnewswire.com/food-beverages/20090203/DC6642103022009-1.html>

## UK to investigate nanotechnology & Food

February 4, 2004

## UK to investigate nanotechnology & Food

Published date: 04 February 2009

**A new subcommittee on nanotechnologies and food has been set up by the House of Lords Science & Technology Committee in the UK to investigate the development and safe use of nanotechnology in the food sector.**

The committee has decided to look into the use of nanotechnology in food at a time when its use in the production and manufacture of food and food packaging is in its infancy.

Only a small number of products currently exist on the global market. Many possible food applications are at a research stage, and millions of dollars are being spent by governments and industry to apply nanotechnologies in areas such as food processing, food safety and packaging.

The inquiry will focus on the use of nanotechnologies in food products, additives and supplements, as well as food contact packaging, food manufacturing processes, animal feed, pesticides and fertilisers, and products that may come into contact with food, such as food containers and cooking utensils.

Questions on which the committee is inviting evidence include:

- What is the current state of nanotechnologies research and development in the UK, and how does it compare to research being carried out in other countries?
- What are the potential applications and benefits of nanotechnologies in the food sector?
- What are the risks posed to consumers by the use of nanotechnologies and nanomaterials in the food sector?
- Is the regulatory framework for nanotechnologies and nanomaterials fit for purpose, and is there any inter-governmental cooperation on regulations and standards?
- What is the current level of public awareness of the issues surrounding the use of nanotechnologies in the food sector?

<http://foodbev.com/ArticleDetail.aspx?contentId=2140>



Feb. 5, 2009

### **Free e-learning DVD on Ethics of Nanotechnology**

(*Nanowerk News*) From mid-February 2009, [EthicSchool](#) distributes 500 e-learning DVDs on Ethics of Nanotechnology and of Converging Technologies for free to lecturers giving courses on Ethics of Science and Technology, and for self-study. Contact Ineke Malsch to order one or more copies: [postbus@malsch.demon.nl](mailto:postbus@malsch.demon.nl)

The European Union and national governments are stimulating responsible science and technology development. This should be realised through collaborative efforts of the research community, business, government and other stakeholders. Training natural scientists and engineers in applied ethics contributes to this goal in the long term. Offering information on emerging technologies giving rise to new or more acute ethical questions to students in humanities and social sciences is also useful.

The contents of this e-learning tool may be included in the curricula for both groups of students in higher education. Others with a personal or professional interest in these matters may also benefit from this DVD. This DVD is focused on Ethics of Nanotechnology and of Converging Technologies. It includes materials from the EthicSchool on Ethics of Nanotechnology, held at the University of Twente, Netherlands, 24-29 August 2008 and the EthicSchool on Ethics of Converging Technologies, organised under responsibility of the TU Darmstadt, Germany, 21-26 September 2008.

The EthicSchool project is funded by the European Commission. Information on the EU FP science and society program.

<http://www.nanowerk.com/news/newsid=9173.php>



### New Report Discusses Magnetic Nanomaterials, Nanosensors and Nanosystems

Research and Markets has announced the addition of John Wiley and Sons Ltd's new report "[Nanomedicine: Design and Applications of Magnetic Nanomaterials, Nanosensors and Nanosystems](#)" to their offering.

Recent advances in nanomedicine offer ground-breaking methods for the prevention, diagnosis and treatment of some fatal diseases. Amongst the most promising nanomaterials being developed are magnetic nanomaterials, including magnetic nanoparticles and magnetic nanosensors. Some nanomagnetic medical applications are already commercially available with more set to be released over the coming years.

Nanomedicine, Design and Applications of Magnetic Nanomaterials, Nanosensors and Nanosystems presents a comprehensive overview of the biomedical applications of various types of functional magnetic materials. The book provides an introduction to magnetic nanomaterials before systematically discussing the individual materials, their physical and chemical principles, fabrication techniques and biomedical applications.

This methodical approach allows this book to be used both as a textbook for beginners to the subject and as a convenient reference for professionals in the field.

- Discusses magnetic nanoparticles including nanowires, nanotubes, zero-dimensional nanospheres and naturally existing magnetosomes.
- Examines intrinsically smart magnetic materials and describes their part in the development of biomedical sensors and biochips, which are often used in biomedical tests.
- Integrates the research efforts of different disciplines - from materials sciences to biology and electrical engineering to medicine - in order to provide a unified and authoritative guide to a richly interdisciplinary field.

This volume is of great appeal to students and researchers in the fields of electrical and electronic engineering, biomedical engineering, nanotechnology, materials science, physics, medicine and biology. It is also of interest to practising engineers, materials scientists, chemists and research medical doctors involved in the development of magnetic materials and structures for biomedical applications.

Posted February 3rd, 2009

<http://www.azom.com/news.asp?newsID=15461>

## THE HINDU

### Nano-probes to track how antibiotics work against bacteria

Sydney (IANS): Researchers have found a way of using tiny nano-probes to help understand how and why an antibiotic is effective against bacteria.

Bacteria such as MRSA, commonly known as Golden Staph, are becoming increasingly resistant to antibiotics, posing a major community health problem.

Matt Cooper, a professor at the University of Queensland's Institute for Molecular Bioscience, will establish a research programme in the development of antibiotics and antifungals that are active against drug-resistant pathogens.

"In order to attack this problem we need to understand not only the ways in which bacteria develop and exhibit resistance to antibiotics, but also how new antibiotics can work to kill or slow the growth of resistant bacteria," Cooper said.

To study antibiotic action, a London Centre for Nanotechnology team made nano-probes coated with molecules found in bacterial cell walls

from normal bacteria and bacteria resistant to antibiotics.

<http://www.hindu.com/thehindu/holnus/099200902071551.htm>



Review Provides Comprehensive Overview of the Global Nanotechnology and Nanoparticle Industry

**A new market news review, 2008 NANOPARTICLE NEWS REVIEW (NAN004J) from [BCC Research](#), provides a comprehensive overview of the global nanoparticle industry, offering detailed insight into current and emerging technologies and markets. BCC's bi-monthly newsletter Nanoparticle News examines all major market segments within the area being researched, and provides an analysis of market drivers, major players, patent activity and other key market factors that are influencing or will influence market growth over the next four to 10 years.**

Topics highlighted in this review include: progress in nanotechnology; processing and characterization of nanoparticles; applications in electronics, optics and optoelectronics; energy and environment issues; biotechnology and drug delivery; and carbon nanostructures.

The review also includes sections examining administrative issues and industry news. It also summarizes nanotechnology products and their development, and the processing characterization of nanostructures.

The structure of the nanoparticle industry is examined in detail, including investments in nanotechnology and nanotechnology driven partnerships. Company activities that shape growth in the industry, such as acquisitions, mergers and spin-offs also are discussed.

A detailed market assessment reveals that the global market for nanotechnology will increase from \$11.6 billion in 2007 to an estimated \$12.7 billion by the end of 2008. It should reach \$27 billion in 2013, a compound annual growth rate (CAGR) of 16.3%.

<http://www.azonano.com/news.asp?newsID=9775>



## BioForce Nanosciences Reports First Nano eNabler System Sale to a Commercial User

### Purchase by International Semiconductor Manufacturer Marks First Customer Intending to Use Nano eNabler in a Production Environment

February 09, 2009: 08:30 AM ET

BioForce Nanosciences Holdings, Inc. (OTCBB: BFNH), a producer of products and solutions for academic researchers and commercial users based upon its ultra-micro to nano scale fluid deposition platform, today announced the first ever sale of a Nano eNabler(TM) System to a commercial user. The sale to an international semiconductor manufacturer was completed by BioForce's Continental European distributor, NanoandMore GmbH.

In addition to the significant milestone of being the first Nano eNabler System sale to a commercial user, this transaction marks the first sale to a user who intends to deploy the Nano eNabler in a production rather than research laboratory environment. This reinforces BioForce's vision that a need exists for the Nano eNabler in production environments where commercial users seek to manufacture products, such as biosensors and other diagnostic devices, requiring ultra-micro to nano scale fluid deposition.

NanoandMore GmbH's Chief Executive Officer, Peer Burshille, said, "We are continuing to see significant interest among European sales prospects in the Nano eNabler's unique capabilities. This interest comes from both academic institutions and industrial companies. This marks our company's fifth Nano eNabler System sale, and we expect that our sales of BioForce's products in 2009 will exceed those of previous years."

<http://money.cnn.com/news/newsfeeds/articles/marketwire/0472198.htm>



### Largest nanotechnology event in Spain

(*Nanowerk News*) The six year-old NanoSpain network aims to agglutinate and coordinate the efforts made in the field of the Nanotechnology by Spanish groups from universities, research institutes and companies. Moreover, this network has tried to help the government institutions in defining potential actions and plans referring to this area. Currently the NanoSpain network, comprising 250 Spanish groups with near 1200 researchers in total, is one of the widest Spanish scientific networks.



This year's [NanoSpain 2009](#) event will take place in Zaragoza on March 9-12, 2009.

In 2008, Spain, Portugal and France (through their respective networks NanoSpain, PortugalNano and C'Nano GSO) decided to join efforts in order that NanoSpain events facilitate the dissemination of knowledge and promote interdisciplinary discussions not only in Spain but among the different groups from Southern Europe.

Other objectives will also be to enhance industrial participation and permit considering the situation of Nanoscience and Nanotechnology in the south of Europe.

<http://www.nanowerk.com/news/newsid=9200.php>

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