



## REGULATORY AND LEGISLATIVE DEVELOPMENTS

### **New Report on Nanomedicinal Environment and Health Risks**

Health Care Without Harm, an international organization of health care stakeholders focused on preventing negative impact on humans and the environment, has released a report entitled "Nanomedicine: New Solutions or New Problems?" The report raises concerns regarding the effects of nanomedicines on the environment and beyond specific treatment sites in the human body. The report recommends changes to the EU regulatory framework, such as classifying nanomaterials as new substances, and considering the entire lifecycle of nanomedicines with regard to toxicity and environmental impact.

<http://noharm-europe.org/sites/default/files/documents-files/2462/HCWH%20Europe%20Nanoreport.pdf>

### **OECD Report on Ecotoxicology of Nanomaterials**

The Organization for Economic Cooperation and Development (OECD) has released a document "Ecotoxicology and Environmental Fate of Manufactured Nanomaterials: Test Guidelines." The report rises from a series of OECD expert meetings in January 2013. It includes details on discussions regarding ecotoxicology at three sessions and a plenary session at the 2013 expert meeting.

[http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO\(2014\)1/ADD&doclanguage=en](http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO(2014)1/ADD&doclanguage=en)

### **Argentina, Portugal, and Spain Sign Nanotechnology Memorandum**

The governments of Argentina, Spain, and Portugal have agreed to a memorandum of understanding that promotes increased cooperation between the countries in nanotechnology. The memorandum allows Argentine access to the International Iberian Nanotechnology Laboratory and the development of joint nanotechnological projects.

<http://inl.int/highlights/inl-strengthens-collaborative-ties-with-argentine-researchers-60>

### **Survey by EU NanoSafety Cluster**

The EU NanoSafety Cluster, a European organization focusing on safety in toxicology, ecotoxicology, risk assessment, interaction, exposure, and standardization for nanotechnology, has launched a survey on global nanosafety-related databases. The survey is part of a larger project to ensure interoperability and a common language of databases for nanotechnology.

[https://docs.google.com/forms/d/1GZD4O6YMSI\\_GpLSWMIxDs5BcRcBCSAjYEy82qH9NTFU/viewform](https://docs.google.com/forms/d/1GZD4O6YMSI_GpLSWMIxDs5BcRcBCSAjYEy82qH9NTFU/viewform)

### **NNI Publishes Budget Supplement**

The US National Nanotechnology Initiative (NNI) has published a document containing supplemental information to the President's 2015 budget. NNI uses the supplement to summarize its 2013 – 2015 activities, including a shift in focus from R&D to innovation in nanomaterials. The document also details 2013 – 2015 shifts in NNI's investment strategy throughout all of the agencies involved in the project.

[http://nano.gov/sites/default/files/pub\\_resource/nni\\_fy15\\_budget\\_supplement.pdf](http://nano.gov/sites/default/files/pub_resource/nni_fy15_budget_supplement.pdf)

### **EPA Removes Nanotechnology from Food Packaging**

The US Environmental Protection Association has ordered the removal of nanosilver from plastic food packaging due to concerns regarding potential impacts on environmental and human health. The nanosilver was included in the packaging to help reduce the growth of bacteria.

[http://www.centerforfoodsafety.org/files/pathway-stop-sale\\_04210.pdf](http://www.centerforfoodsafety.org/files/pathway-stop-sale_04210.pdf)

## REVIEWS AND OTHER PUBLICATIONS OF INTEREST

### **ATP-triggered anticancer drug delivery.**

Nature Communications, Vol. 5, March 2014.  
Ran Mo, Tianyue Jiang, Rocco DiSanto, Wanyi Tai, Zhen Gu.  
<http://www.nature.com/ncomms/2014/140311/ncomms4364/full/ncomms4364.html>

### **Activation of multiple signaling pathways during the differentiation of mesenchymal stem cells cultured in a silicon nanowire microenvironment.**

Nanomedicine: Nanotechnology, Biology, and Medicine, February 2014. Dandan Liu, Changqing Yi, Chi-Chun Fong, Qinghui Jin, Zuankai Wang, Wai-Kin Yu, Dong Sun, Jianlong Zhao, Mengsu Yang.  
[http://www.nanomedjournal.com/article/S1549-9634\(14\)00037-9/fulltext](http://www.nanomedjournal.com/article/S1549-9634(14)00037-9/fulltext)

### **Surface-stress sensors for rapid and ultrasensitive detection of active free drugs in human serum.**

Nature Nanotechnology, Vol. 9, pp. 225 – 232, March 2014. Joseph W. Ndieyira, Natascha Kappeler, Stephen Logan, Matthew A. Cooper, Chris Abell, Rachel A. McKendry, Gabriel Aeppli.  
<http://www.nature.com/nnano/journal/v9/n3/full/nnano.2014.33.html>

### **Twist1-induced dissemination preserves epithelial identity and requires E-cadherin.**

The Journal of Cell Biology, Vol. 204, No. 5, pp. 839 – 856, March 2014. Eliah R. Shamir, Elisa Pappalardo, Danielle M. Jorgens, Kester Coutinho, Wen-Ting Tsai, Khaled Aziz, Manfred Auer, Phuoc T. Tran, Joel S. Bader, Andrew J. Ewald.  
<http://jcb.rupress.org/content/204/5/839>

### **Controlling Biological Activity with Light: Diarylethene-Containing Cyclic Peptidomimetics.**

Angewandte Chemie, Vol. 126, Issue 13, pp. 3460 – 3463, March 2014. Oleg Babii, Sergii Afonin, Marina Berditsch, Sabine Reißer, Pavel K. Mykhailiuk, Vladimir S. Kubyshekin, Thomas Steinbrecher, Anne S. Ulrich, Igor V. Komarov.  
<http://onlinelibrary.wiley.com/doi/10.1002/ange.201310019/abstract>

### **Responses of Staphylococcus aureus bacterial cells to nanocrystalline nickel nanostructures.**

Biomaterials, Vol. 35, Issue 14, pp. 4249 – 4254, May 2014. Zeinab Jahed, Peter Lin, Brandon B. Seo, Mohit S. Verma, Frank X. Gu, Ting Y. Tsui, Mohammad R.K. Mofrad.  
<http://www.sciencedirect.com/science/article/pii/S0142961214001240?via=ihub>

### **Estimating the effective density of engineered nanomaterials for *in vitro* dosimetry.**

Nature Communications, Vol. 5, Article No. 3514, March 2014. Glen DeLoid, Joel M. Cohen, Tom Darrach, Raymond Derk, Liying Rojasasakul, Georgios Pyrgiotakis, Wendel Wohlleben, Philip Demokritou.  
<http://www.nature.com/ncomms/2014/140328/ncomms4514/full/ncomms4514.html>

### **Near Infrared-Induced Heating of Confined Water in Polymeric Particles for Efficient Payload Release.**

ACS Nano, March 2014. Mathieu L. Viger, Wangzhong Sheng, Kim Dore, Ali H. Alhasan, Carl-Johan Carling, Jacques Lux, Caroline de Gracia Lux, Madeleine Grossman, Robert Malinow, Adah Almutairi.  
<http://pubs.acs.org/doi/abs/10.1021/nn500702g>

## CONFERENCES AND WORKSHOPS

### **SCT-SF Nano Joint Meeting, April 8, 2014, Paris, France**

Drug delivery  
Targeting and activating  
Pharmacokinetics  
Pharmacodynamics

[http://www.ldorganisation.com/v2/produits.php?langue=english&cle\\_menus=1238915758](http://www.ldorganisation.com/v2/produits.php?langue=english&cle_menus=1238915758)

### **7th International Nanotoxicology Congress, April 23 – 26, 2014, Antalya, Turkey**

Characterization

Biomedicine applications  
Genotoxicity and cancer  
Risk assessment  
Harmonization

<http://www.nanotox2014.org/index.html>

### **NANOSMAT USA 2014, May 19 – 22, 2014, Houston, Texas, USA**

Carbon-based nanomaterials  
Nanocomposites  
Self-assembly  
Modeling

*For further information, or if you have any questions about the Nanomedicines Alliance, please contact the Nanomedicines Alliance Secretariat at 1-202-230-5653.*

Interactive nanomaterials  
<http://www.nanosmat-usa.com/default.asp>

**NanoBio Europe, June 2 – 4, 2014, Münster, Germany**

Toxicology  
 Characterization  
 Regenerative Medicine  
 Therapeutics  
<http://www.nanobio-europe.com/>

**Nanotech: Advanced Materials and Applications, June 15 – 19, 2014, Washington, DC**  
 Bionanomaterials

Drug and gene delivery  
 Cancer nanotechnology  
 Biosensing, diagnostics, and imaging  
<http://www.techconnectworld.com/Nanotech2014/>

**11th International Conference on Nanosciences and Nanotechnologies, July 8 – 11, 2014, Thessalonica, Greece**

Nanofabrication  
 Self-assembly and self-organization  
 Clinical Applications  
 Nanobiotechnology  
[http://www.nanotecnology.com/index.php?option=com\\_content&view=article&id=48&Itemid=54](http://www.nanotecnology.com/index.php?option=com_content&view=article&id=48&Itemid=54)

**REFERENCE SECTION**

**Nanobio- and Nanomedicine Companies**

Listed alphabetically:  
[http://www.nanowerk.com/nanotechnology/nanomaterial/nanobiomedicine\\_a.php](http://www.nanowerk.com/nanotechnology/nanomaterial/nanobiomedicine_a.php)

**Nano Organizations**

National Center for Toxicological Research (NCTR):  
<http://www.fda.gov/AboutFDA/CentersOffices/NCTR/default.htm>

National Nanotechnology Initiative (NNI):  
<http://www.nano.gov/>

Nano Science and Technology Consortium (NSTC): <http://www.nstc.in/>

Nano Science and Technology Institute (NSTI):  
<http://www.nsti.org/>

The Nanotechnology Institute (NTI):  
<http://nanotechinstitute.org/>

**Nano Journals**

American Chemical Society -- Nano Letters:  
<http://pubs.acs.org/journal/nalefd>

Institute of Physics – Nanotechnology:  
<http://iopscience.iop.org/0957-4484/>

Journal of Nanoscience and Nanotechnology:  
<http://www.aspbs.com/jnn/>

NanoTrends - A Journal of Nanotechnology and its Applications: <http://www.nstc.in/journal/default.aspx>

BCC Research -- Nanotechnology Reports:  
<http://www.bccresearch.com/index/category/code/nanotechnology>

Nanomedicine: Nanotechnology, Biology, and Medicine: <http://www.nanomedjournal.com/home0>

Nanomedicine:  
<http://www.futuremedicine.com/page/about.jsp>

Nature Nanotechnology:  
[http://www.nature.com/nnano/focus/highlights/index.html?WT.mc\\_id=NM1110CT01](http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT01)

**CONTACT**

For further information, or if you have any questions about the Nanomedicines Alliance, please contact the Nanomedicines Alliance Secretariat at 1-202-230-5653 or [info@nanomedicines-alliance.org](mailto:info@nanomedicines-alliance.org).

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