



**SAVE THE DATES: Nanomedicines Alliance Symposium**

The Nanomedicines Alliance is hosting an industry symposium 6-7 March 2013 in Rockville, MD, USA, entitled “**Nanomedicines: Charting a Roadmap to Commercialization.**”

*Speakers include industry members, FDA representatives, and academia.*

**Registration is open now. Be sure to take advantage of the early bird rates.**

**See page 5 of the newsletter for more details.** Check the website for updated information: <http://www.nanomedicines-alliance.org/>

**REGULATORY AND LEGISLATIVE DEVELOPMENTS**

**Characterisation of Nanoscale Properties of Chemicals under REACH**

The German Federal Institute of Occupational Safety and Health has issued its final research report entitled “Characterisation of nanoscale properties of chemicals as basis for regulation under Regulation EC No. 1907/2006 (REACH).” The report focuses on adapting test instructions currently outlined by REACH to nanomaterials. The report can be found here (in German): [http://www.innovationsgesellschaft.ch/media/archive2/news/20121119\\_REACH\\_Nano\\_BAuA\\_News\\_deutsch.pdf](http://www.innovationsgesellschaft.ch/media/archive2/news/20121119_REACH_Nano_BAuA_News_deutsch.pdf)

**Special Issue of *Jurimetrics: The Journal of Law, Science and Technology* on Nano Oversight**

Arizona State University's College of Law has published a special issue of *Jurimetrics: The Journal of Law, Science, and Technology*. The issue focuses on oversight models for emerging technologies. It highlights the nanotechnology conference last year in Phoenix that focused on risk management and regulation of nanotechnology. The conference included nano technology experts from government, pharma industry, NGOs, insurance industry, and academia. <http://www.law.asu.edu/News/CollegeofLawNews.aspx?slid=4238>

**Joint JRC-EASAC Report on Impact of Nanomaterials on Health**

The Joint Research Centre (JRC) has released a report on the impact of engineered nanomaterials on human health with the European Academies Sciences Advisory Council (EASAC). The objective of the paper was to outline benefits and potential risks, current methods for safety assessment, identify gaps in current knowledge for studying safety of nanomaterials, and recommend priorities for research and regulation. The report emphasizes that there is limited scientific evidence at this point that suggests nanomaterials could be a risk for human health. The authors recommend that the principles of risk assessment procedures should be the same as for any other new material, while simultaneously noting that new phenomena may occur due to nanoscale properties. [http://ihcp.jrc.ec.europa.eu/our\\_activities/nanotechnology/joint-jrc-easac-report-impact-of-engineered-nanomaterials-on-health](http://ihcp.jrc.ec.europa.eu/our_activities/nanotechnology/joint-jrc-easac-report-impact-of-engineered-nanomaterials-on-health)

**NRI to Lead Development of Post-CMOS Electronics**

The National Institute of Standards and Technology (NIST) has chosen the Nanoelectronics Research Initiative (NRI) to support academic research for the development of after-the-next-generation nanoelectronics. The NRI is a group comprised of several key players in the semiconductor industry, including IBM, Intel, Micron Technology, and Texas

Instruments. This effort will receive \$2.6 million from the NIST over five years to develop nanoelectronic technology to replace the complementary metal-oxide-semiconductor (CMOS) that is utilized in current electronics.

More on this effort can be found here:  
<http://www.nano.gov/node/895>

## REVIEWS AND OTHER PUBLICATIONS OF INTEREST

**REVIEW: Engineered Nanoparticulate Drug Delivery Systems: The Next Frontier for Oral Administration?** AAPS, December 2012, Vol. 14, No. 4, pp.688-702. Roudayna Diab, Chiraz Jaafar-Maalej, Hatem Fessi, Philippe Maincent.  
<http://link.springer.com/accesspage/article/10.1208/s12248-012-9377-y>

**REVIEW: Crystalline Nanosuspensions as Potential Toxicology and Clinical Oral Formulations for BCS II/IV Compounds** AAPS, December 2012, Vol. 14, No. 4, pp. 677-687. Filippos Kesisoglou, Amitava Mitra.  
<http://link.springer.com/accesspage/article/10.1208/s12248-012-9383-0>

**Trojan-Horse Nanotube On-Command Intracellular Drug Delivery.** Nano Letters, 14 November 2012, Vol. 12, No. 11, pp. 5475-5480. Chia-Hsuan Wu, Cong Cao, Jin Ho Kim, Chih-Hsun Hsu, Harold J. Wanebo, Wayne D. Bowen, Jimmy Xu, and John Marshall.  
<http://pubs.acs.org/doi/pdfplus/10.1021/nl301865c>

**Determining the Pharmacokinetics and Long-Term Biodistribution of SiO<sub>2</sub> Nanoparticles In Vivo Using Accelerator Mass Spectrometry.** Nano Letters, 14 November 2012, Vol. 12, No. 11, pp. 5532-5538. Michael A. Malfatti, Heather A. Palko, Edward A. Kuhn, and Kenneth W. Turteltaub.  
<http://pubs.acs.org/doi/pdfplus/10.1021/nl302412f>

**Modelling Biological Activities of Nanoparticles.** Nano Letters, 14 November 2012, Vol. 12, No. 11, pp. 5808-5812. V. Chandana Epa, Frank R. Burden, Carlos Tassa, Ralph Weissleder, Stanley Shaw, and David A. Winkler.  
<http://pubs.acs.org/doi/pdfplus/10.1021/nl303144k>

**Integrating Legal Liabilities in Nanomanufacturing Risk Management.** Environmental Science and Technology, 2012, Vol. 46, No. 15, pp. 7955-7962. Mayank Mohan, Benjamin D. Trump, Matthew E. Bates, John C. Monica, Jr., and Igor Linkov.  
<http://pubs.acs.org/doi/pdfplus/10.1021/es3003266>

**Antibacterial Effect of Zinc Oxide Nanoparticles Combined with Ultrasound.** Nanotechnology, 14 December 2012, Vol. 23, No. 49. Justin T. Seil and Thomas J. Webster.  
[http://iopscience.iop.org/0957-4484/23/49/495101/pdf/0957-4484\\_23\\_49\\_495101.pdf](http://iopscience.iop.org/0957-4484/23/49/495101/pdf/0957-4484_23_49_495101.pdf)

**India's Decade in Nanotechnology: Trends, Challenges, and Way Forward Research Paper.** Nano Trends, November-December 2012, Vol. 13, No. 2. Shilpanjali Deshpande Sarma.  
<http://www.nstc.in/nstcwebsite/journal/LoginArticle.aspx?articleid=PDF/318>

**A New Nano-Cryosurgical Modality for Tumor Treatment Using Biodegradable MgO Nanoparticles.** Nanotechnology, Biology, and Medicine, November 2012, Vol. 8, No. 8, pp.1233-1241. De-Rui Di, Zhi-Zhu He, Zi-Qiao Sun, Jing Liu.  
<http://download.journals.elsevierhealth.com/pdfs/journals/1549-9634/PIIS154996341200086X.pdf>

**REVIEW: Protein and Peptide Based Electrospun Nanofibers in Medical Biomaterials.** Nanotechnology, Biology, and Medicine, November 2012, Vol. 8, No. 8, pp. 1242-1262. Dhan B. Khadka, Donald T. Haynie.  
<http://download.journals.elsevierhealth.com/pdfs/journals/1549-9634/PIIS1549963412000895.pdf>

**Novel Thermogelling Dispersions of Polymer Nanoparticles for Controlled Protein Release.** Nanotechnology, Biology, and Medicine, November 2012, Vol. 8, No. 8, pp. 1301-1308. Tong Cai, Peter D. Hu, Manwu Sun, Jun Zhou, et al.  
<http://download.journals.elsevierhealth.com/pdfs/journals/1549-9634/PIIS1549963412000202.pdf>

**REVIEW: Nanodelivery Strategies in Cancer Chemotherapy: Biological Rationale and Pharmaceutical Perspectives.** Nanomedicine, October 2012, Vol. 7, No. 10, pp. 1577-1590. George Mattheolabakis, Basil Rigas, Panayiotis P. Constantinides.  
<http://www.futuremedicine.com/doi/pdf/10.2217/nmm.12.128>

**REVIEW: Enhancing Immunogenicity and Cross-Reactivity of HIV-1 Antigens by In Vivo Targeting to Dendritic Cells.** Nanomedicine, October 2012, Vol. 7, No. 10, pp. 1591-1610. Luis J. Cruz, Felix Rueda, Paul Tacken, Fernando Albericio, Ruurd Torensma, Carl G. Figdor.

<http://www.futuremedicine.com/doi/pdf/10.2217/nmm.12.131>

**REVIEW: Microfabricated Magnetic Structures for Future Medicine: From Sensors to Cell Actuators.** Nanomedicine, October 2012, Vol. 7, No. 10, pp. 1611-1624. Elina A. Vitol, Valentyn Novosad, Elena A. Rozhkova.

<http://www.futuremedicine.com/doi/pdf/10.2217/nmm.12.133>

**REVIEW: Living Cell Study at the Single-Molecule and Single-Cell Levels by Atomic Force Microscopy.** Nanomedicine, October 2012, Vol. 7, No. 10, pp. 1625-1637. Xiaoli Shi, Xuejie Zhang, Tie Xia, Xiaohong Fang.

<http://www.futuremedicine.com/doi/pdf/10.2217/nmm.12.130>

**REVIEW: Atomic Force Microscopy: A Tip for Diagnosing Cancer.** Nature Nanotechnology, November 2012, Vol. 7, No. 11, pp. 691-692. Małgorzata Lekka.

<http://www.nature.com/nnano/journal/v7/n11/pdf/nnano.2012.196.pdf>

## CONFERENCES AND WORKSHOPS

**2012 Workshop on Nanoinformatics for Biomedicine, October 4-7, 2012, Philadelphia, PA**

Nanomaterial-biological interactions  
Translational nanoinformatics  
Ethical and social issues

<http://workshops.i-a-i.com/nanoinfo2012>

**2nd Novel Drug Delivery System China, October 22-24, 2012, Shanghai, China**

Novel oral nano drug delivery systems

<http://www.ndds-china.com/en/index.asp>

**International Conference on Nanotechnology in Medicine, November 7-9, 2012, London, UK**

Tissue engineering and biomaterial science  
Nanoscale tissue scaffolds  
Nanoscale biomaterial surface modification  
Targeted drug delivery  
Nano-vehicle delivery systems  
Diagnosis and imaging

<http://www.nanomed.uk.com/about.html>

**Nanosafe 2012, November 13-15, 2012, Grenoble, France**

Exposure assessment  
Characterisation, detection, and monitoring  
Nanomaterials life cycle  
Toxicology  
Environmental impact  
Nanoparticle release from consumer products  
Personal protective equipment  
Secure industrial production  
Safety parameters evaluation  
Standardisation, regulations

<http://www.nanosafe.org/scripts/home/publigen/content/templates/show.asp?P=121&L=EN&ITEMID=65>

**First International Conference on Infectious Diseases and Nanomedicine, December 15-18, 2012, Kathmandu, Nepal**

Emerging infectious diseases  
Antimicrobial agents, vaccines, and immunity  
Drug design, drug delivery, and tissue engineering  
Nanomaterials and biomedical materials

<http://www.medmicronepal.org/>

**1st IBN International Symposium—Nanosystems for Biomedical Applications, January 11-13, 2013, Singapore, Singapore**

Drug and gene delivery  
Cell and tissue engineering  
Biodevices and Diagnostics  
Pharmaceutical synthesis and green chemistry

<http://www.ibn-is.com/>

**ASME 2013 2nd Global Congress on NanoEngineering for Medicine and Biology (NEMB 2013), February 4-6, 2013, Boston, MA**

Bioengineering for medical diagnostics, therapeutics, and imaging  
Nanoengineering for regenerative medicine and tissue engineering  
Manufacturing and materials for nanomedicine, biology, and nanoengineering  
Biological nanomechanics: materials factors in physiology, disease, and treatment

<http://www.asmeconferences.org/NEMB2013/TrackKeynotes.cfm>

**BioNanoMed 2013, March 13-15, 2013, Krems, Austria.**

Novel nanomedical solutions—advances in nanomedicine  
 Regenerative nanomedicine  
 Nano-bio-technology based diagnostics  
 Nano-bio-technology based therapy  
 Aspects of nano safety  
 Nano-imaging technologies in medicine

<http://www.bionanomed.at/>

**19<sup>th</sup> Congress of the International Society for Aerosols in Medicine, April 6-10, 2013, Chapel Hill, North Carolina.**

Inhaling nanoparticles by accident on purpose—challenges and opportunities for toxicology and therapeutics

<http://www.med.unc.edu/isam2013/scientific-program>

**Cancer Nanotechnology, July 14-19, 2013, West Dover, VT**

Materials synthesis  
 Characterisation  
 Biocompatibility

<http://www.grc.org/programs.aspx?year=2013&program=cncano>

## 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/home>

Nanomedicine:

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

Nature Nanotechnology:

[http://www.nature.com/nnano/focus/highlights/index.html?WT.mc\\_id=NM1110CT010](http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT010)

## CONTACT

For further information, or if you have any questions about the Nanomedicines Alliance, please contact the Nanomedicines Alliance Secretariat at 1-202-230-5607 or [info@nanomedicines-alliance.org](mailto:info@nanomedicines-alliance.org)

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# Nanomedicines Alliance

[www.nanomedicines-alliance.org](http://www.nanomedicines-alliance.org)

## Register and Invite Your Colleagues!!

Nanomedicines Alliance Industry Symposium

# NANOMEDICINES: CHARTING A ROAD TO COMMERCIALIZATION

Wed-Thurs, 6-7 March 2013

Hilton Washington DC/Rockville, Maryland USA

**Symposium will address:**

- Designing nanomedicines
- Preclinical pharmacology
- Chemistry, Manufacturing, and Controls
- Toxicology/ADME
- Clinical Studies

**through**

- Podium presentations
- Breakout sessions
- Poster session (see Call for Posters)

**You will benefit from this Symposium if you work in**

- Pharmaceutical industry
- Biotech industry
- Regulatory agency

**Or are interested in**

- Industry perspectives
- Manufacturing nanomedicines
- Future of nanomedicines
- Fostering dialogue and networking

Participants include FDA and NCI representatives, international industry leaders, and cutting-edge academics

**To Register:** <https://www.signmeup.com/86831>

**Early Bird** (To take advantage of the Early Bird Rate, please register by 18 January 2013):

\$500 (industry)

\$400 (academia)

\$250 (government)

Please contact the Alliance Secretariat at [dede.godstrev@dbr.com](mailto:dede.godstrev@dbr.com) or +1-202-230-5607 for more information