Nanomedicines ALLIANCE

NanoMed Digest

Nanomedicines Alliance Newsletter
November 2013

Regulatory and Legislative Developments

NNI Releases 2014 Strategic Plan

The US National Nanotechnology Initiative has released a draft 2014 Strategic Plan for public comment. The draft strategic plan outlines the goals of increasing nanotechnology research and development, expanding the use nanotechnology in commercial products, encouraging the appropriate use of nanotechnology, and more. The plan also includes an outline of the NNI's organizational structure in place to achieve these goals.
http://www.nano.gov/sites/default/files/2014_nni_strategic_plan_-_draft_for_public_comment_locked.pdf

European Commission Launches EuroNanoMed II

The European Commission has decided to fund the EuroNanoMed II initiative to continue its support to the European nanomedicine research community. The project has been granted seven million euros in funding, which continues through October 2016. The project has 20 partners from 17 different European countries. The initiative aims to promote transnational collaboration and research with participants from academia, industry, and health communities. EuroNanoMed II also hopes to foster dialogue with regulatory agencies.
http://www.euronanomed.net/

NIOSH Publishes Report on Managing Exposure to Nanomaterials

The US National Institute for Occupational Safety and Health (NIOSH) has published revised recommendations on limiting occupational exposure to engineered nanomaterials. This new report is entitled "Current Strategies for Engineering Controls in Nanomaterials Production and Downstream Handling Processes." The report recommends engineering control technologies as the most effective safety strategy for nanomaterials in the workplace.
http://www.cdc.gov/niosh/docs/2014-102/pdfs/2014-102.pdf

NSF Gives Grant for Nanoparticle Study

The National Science Foundation (NSF) has awarded a grant to a team of researchers at Clarkson University for a study of the effect of nanoparticle exposure on human health and the environment. The team is studying how nanoparticles might affect the defense mechanisms of cells, tissues, and organs. The team hopes to gain insight into the effects of nanomaterials on short and long term human health.
http://clarkson.edu/news/2013/news-release_2013-11-26-1.html

Reviews and Other Publications of Interest

Transepithelial Transport of Fc-Targeted Nanoparticles by the Neonatal Fc Receptor for Oral Delivery. Science Translational Medicine, Vol. 5, Issue 213, November 2013. Eric M. Pridgen, Frank Alexis, Timothy T. Kuo, Etgar Levy-Nissenbaum, Rohit Karnik, Richard S. Blumberg, Robert Langer, Omid C. Farokhzad.
http://stm.sciencemag.org/content/5/213/213ra167

Spherical Nucleic Acid Nanoparticle Conjugates as an RNAi-Based Therapy for Glioblastoma. Science Translational Medicine, Vol. 5, Issue 209, October 2013. Samuel A. Jensen, Emily S. Day, Caroline H. Ko, Lisa A. Hurley, Janina P. Luciano, Fotini M. Kouri, Timothy J. Merkel, Andrea J. Luthi, Pinal C. Patel, Joshua I. Cutler, Weston L. Daniel, Alexander W. Scott, Matthew W. Rotz, Thomas J. Meade, David A. Giljohann, Chad A. Mirkin, Alexander H. Stegh.
http://stm.sciencemag.org/content/5/209/209ra152

Sensitization of Transforming Growth Factor-β Signaling by Multiple Peptides Patterned on DNA Nanostructures. Biomacromolecules, November 2013. Ronnie O. Pedersen, Elizabeth G. Loboa, Thomas H. LaBean.
http://pubs.acs.org/doi/abs/10.1021/bm4011722

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

Translational Studies of Phenotypic Probes for the Mononuclear Phagocyte System and Liposomal Pharmacology. The Journal of Pharmacology and Experimental Therapeutics, Vol. 347, No. 3, pp. 599 – 606, December 2013. Whitney P. Caron, John C. Lay, Alan M. Fong, Ninh M. La-Beck, Parag Kumar, Suzanne E. Newman, Haibo Zhou, Jane H. Monaco, Daniel L. Clarke-Pearson, Wendy R. Brewster, Linda Van Le, Victoria L. Bae-Jump, Paola A. Gehrig, William C. Zamboni.
http://jpet.aspetjournals.org/content/347/3/599

Bionanocomposites: Differential Effects of Cellulose Nanocrystals on Protein Diblock Copolymers. Biomacromolecules, October 2013. Jennifer S. Haghpanah, Raymond Tu, Sandra Da Silva, Deng Yan, Silvana Mueller, Christoph Weder, E. Johan Foster, Iulia Sacui, Jeffery W. Gilman, Jin Kim Montclare.
http://pubs.acs.org/doi/abs/10.1021/bm401304w

Janus cyclic peptide–polymer nanotubes. Nature Communications, Vo. 4, No. 2780, November 2013. Maarten Danial, Carmen My-Nhi Tran, Philip G. Young, Sébastien Perrie, Katrina A. Jolliffe.
http://www.nature.com/ncomms/2013/131113/ncomms3780/full/ncomms3780.html

Two-Wave Nanotherapy To Target the Stroma and Optimize Gemcitabine Delivery To a Human Pancreatic Cancer Model in Mice. ACS Nano, Vol. 7, Issue 11, pp. 10048 – 10065, October 2013. Huan Meng, Yang Zhao, Juyao Dong, Min Xue, Yu-Shen Lin, Zhaoxia Ji, Wilson X. Mai, Haiyuan Zhang, Chong Hyun Chang, C. Jeffrey Brinker, Jeffrey I. Zink, and Andre E. Nel.
http://pubs.acs.org/doi/abs/10.1021/nn404083m

Multidrug resistance protein P-gp interaction with nanoparticles (fullerenes and carbon nanotube) to assess their drug delivery potential: a theoretical molecular docking study. International Journal of Computational Biology and Drug Design, Vol. 6, No. 4, November 2013. Sergey Shityakov, Carola Förster.
http://www.inderscience.com/offer.php?id=56801

Nanoparticle-directed sub-cellular localization of doxorubicin and the sensitization breast cancer cells by circumventing GST-Mediated drug resistance. Biomaterials, Vol. 35, Issue 4, pp. 1227 – 1239, January 2014. Xianghui Zeng, Ralf Morgenstern, Andreas M. Nyström.
http://www.sciencedirect.com/science/article/pii/S0142961213012726

Optoelectronic control of surface charge and translocation dynamics in solid-state nanopores. Nature Nanotechnology, November 2013. Nicolas Di Fiori, Allison Squires, Daniel Bar, Tal Gilboa, Theodore D. Moustakas, Amit Meller.
http://www.nature.com/nnano/journal/vaop/ncurrent/full/nnano.2013.221.html

Tumour-on-a-chip provides an optical window into nanoparticle tissue transport. Nature Communications, October 2013. Alexandre Albanese, Alan K. Lam, Edward A. Sykes, Jonathan V. Rocheleau, Warren C.W. Chan.
http://www.nature.com/ncomms/2013/131031/ncomms3718/full/ncomms3718.html

Nanotechnology in the regulation of stem cell behavior. Science and Technology of Advanced Materials, Vol. 14, October 2013. King-Chuen Wu, Ching-Li Tseng, Chi-Chang Wu, Feng-Chen Kao, Yuan-Kun Tu, Edmund C So, Yang-Kao Wang.
http://iopscience.iop.org/1468-6996/14/5/054401/

CONFERENCES AND WORKSHOPS

IEEE Workshop on Nanoinformatics for Biomedicine, December 18-21, 2013, Shanghai, China

- Computational toxicology
- Nanomaterial-biological interactions
- Translational research
- Risk assessment and regulation

http://workshops.i-a-i.com/nanoinfo2013

Euro-Mediterranean Conference on Natural Products: From Biotechnology to Nanomedicine, January 4-6, 2014, Cairo, Egypt

- Biotechnology
- Pharmacogenomics
- Pharmacokinetics
- Pharmacodynamics
- Nano formulations
- Nano particle delivery
- Toxicology

http://www.bionats.org/

Nanotechnology PQRI Workshop – Nanomaterial Drug Products: Current Experience and Management of Potential Risks, January 14-15, 2014, Rockville, MD, USA

- Regulatory approaches
- Risk assessement
- Impact of nanomaterials
- Characterization
- Manufacturing considerations

http://www.pqri.org/pdfs/Nano_Preliminary%20Program%20Brochure.pdf

ASME 2014 3rd Global Congress on Nanoengineering for Medicine and Biology, February 2-5, 2014, San Francisco, CA, USA

- Therapeutics and Drug Delivery
- Regenerative Medicine and Tissue Engineering
- Modeling and Materials in Physiology, Disease, and Treatment
- Nanotoxicology

http://www.asmeconferences.org/NEMB2014/

NanoPortugal 2014 International Conference, February 12 – 14, 2014, Porto, Portugal

- Nanomedicine
- Modeling
- Nanotubes
- Nanoinstrumentation

http://www.nanopt.org/14EN/topics.php?m=c&s=to

BioNanoMed 2014, March 26-28, 2014, Krems, Austria

- Nanomedicines innovation
- Diagnostics and therapy
- Regenerative medicine
- Imaging technology
- Nano safety

http://www.bionanomed.at/index.php?id=26

American Society for Nanomedicine 4th Annual Scientific Conference, March 28 – 30, 2014, Rockville, MD, USA

- Target drug delivery
- Toxicology
- Nanoimaging
- Therapeutics

http://amsocnanomed.org/conference-info

Nanotechnology for Health Care Conference, April 2-4, 2014, Petit Jean Mountain, Arkansas, USA

- Disease Diagnostics
- Therapeutics
- Prevention

http://arkansasnanohealth.com/

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

- Carbon-based nanomaterials
- Nanocomposites
- Self-assembly
- Modeling
- Interactive nanomaterials

http://www.nanosmat-usa.com/default.asp

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

- Nanofabrication
- Self-assembly and self-organization
- Clinical Applications
- Nanobiotechnology

http://www.nanotexnology.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

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

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.

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