



REGULATORY AND LEGISLATIVE DEVELOPMENTS

Nanotechnology Timeline

A Canadian organization, the Institute for Science, Society and Policy has published a timeline on “Nanotechnology Policy and Regulation in Canada, Australia, the European Union, the United Kingdom, and the United States.” The 38-page document describes early molecular breakthroughs, the advancement of nanotechnology in the 1990s, and dozens of 21st century reports on strategy, standard setting, environmental and health research, and more by government agencies, think tanks, academic institutions, and industry.

<http://www.issp.uottawa.ca/eng/documents/ISSP2014-NanotechnologyTimeline.pdf>

European Commission on Nanomaterials in Medical Devices

The European Commission has adopted a “Guidance on the Determination of Potential Health Effects on Nanomaterials Used in Medical Devices” as a preliminary opinion. The guidance provides risk assessment information for the safety evaluation of nanomaterials in medical devices and recommends a case-by-case phased approach to evaluation. The document concludes that risks are mainly associated with the potential for release of free nanoparticles from the device and duration of exposure.

http://ec.europa.eu/health/scientific_committees/emerging/docs/scenihr_o_045.pdf

REVIEWS AND OTHER PUBLICATIONS OF INTEREST

Nanopropellers and Their Actuation in Complex Viscoelastic Media. ACS Nano, June 2014. Debora Schamel, Andrew G. Mark, John G. Gibbs, Cornelia Miksch, Konstantin I. Morozov, Alexander M. Leshansky, Peer Fischer.

<http://pubs.acs.org/doi/abs/10.1021/nn502360t>

Cooperative, Reversible Self-Assembly of Covalently Pre-Linked Proteins into Giant Fibrous Structures. Angewandte Chemie, Vol. 53, Issue 31, pp. 8050 – 8055, July 2014. Saadyah Averick, Orsolya Karácsony, Jacob Mohin, Dr. Xin Yong, Nicholas M. Moellers, Bradley F. Woodman, Weipu Zhu, Ryan A. Mehl, Anna C. Balazs, Tomasz Kowalewski, Krzysztof Matyjaszewski.

<http://onlinelibrary.wiley.com/doi/10.1002/anie.201402827/abstract;jsessionid=353F7F2BD25B66AACB9EEF6195B2A9E3.f03t03>

Development of a Poly (lactic-co-glycolic acid) Particle Vaccine to Protect Against House Dust Mite Induced Allergy. AAPS Journal, July 2014. Vijaya B. Joshi, Andrea Adamcakova-Dodd, Xuefang Jing, Amaraporn Wongrakpanich, Katherine N. Gibson-Corley, Peter S. Thorne, Aliasger K. Salem.

<http://link.springer.com/article/10.1208%2Fs12248-014-9624-5>

Stabilisation of amorphous ibuprofen in Upsalite, a mesoporous magnesium carbonate, as an approach to increasing the aqueous solubility of poorly soluble drugs.

International Journal of Pharmaceutics, Vol. 472, Issues 1 – 2, pp. 185 - 191, September 2014.

Peng Zhang, Johan Forsgren, Maria Strømme.

<http://www.sciencedirect.com/science/article/pii/S0378517314004451>

ICAM-1 Targeted Nanogels Loaded with Dexamethasone Alleviate Pulmonary Inflammation. PLOS One, July 2014. M. Carme Coll Ferrer, Vladimir V. Shuvaev, Blaine J. Zern, Russell J. Composto, Vladimir R. Muzykantov, David M. Eckmann.

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0102329>

Spontaneous chiral symmetry breaking in metamaterials. Nature Communications, Vol. 5, July 2014. Mingkai Liu, David A. Powell, Ilya V. Shadrivov, Mikhail Lapine, Yuri S. Kivshar.

<http://www.nature.com/ncomms/2014/140718/ncomms5441/full/ncomms5441.html>

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

Acceleration of Tissue Plasminogen Activator-Mediated Thrombolysis by Magnetically Powered Nanomotors. ACS Nano, July 2014. Rui Cheng, Weijie Huang, Lijie Huang, Bo Yang, Leidong Mao, Kunlin Jin, Qichuan ZhuGe, Yiping Zhao.
<http://pubs.acs.org/doi/abs/10.1021/nn5029955>

Novel Theranostic DNA Nanoscaffolds for the Simultaneous Detection and Killing of Escherichia coli and Staphylococcus aureus. ACS Applied Materials and Interfaces, June 2014. Magdiel I. Setyawati, Rajaletchumy Veloo Kuttu, Chor Yong Tay, Xun Yuan, Jianping Xie, David T. Leong.
<http://pubs.acs.org/doi/abs/10.1021/am502591c>

Spatial control of membrane receptor function using ligand nanocalipers. Nature Methods, Vol. 11, pp. 841 – 846, July 2014. Alan Shaw, Vanessa Lundin, Ekaterina Petrova, Ferenc Fördös, Erik Benson, Abdullah Al-Amin, Anna Herland, Andries Blokzijl, Björn Högberg, Ana I Teixeira.
<http://www.nature.com/nmeth/journal/v11/n8/full/nmeth.3025.html>

Non-invasive multimodal functional imaging of the intestine with frozen micellar naphthalocyanines. Nature Nanotechnology, Vol. 9, pp. 631 – 638, July 2014. Yumiao Zhang, Mansik Jeon, Laurie J. Rich, Hao Hong, Jumin Geng, Yin Zhang, Sixiang Shi, Todd E. Barnhart, Paschalis Alexandridis, Jan D. Huizinga, Mukund Seshadri, Weibo Cai, Chulhong Kim, Jonathan F. Lovell.
<http://www.nature.com/nnano/journal/v9/n8/full/nnano.2014.130.html>

Improved Stability and Half-Life of Fluorinated Phosphotriesterase Using Rosetta. ChemBioChem, July 2014. Ching-Yao Yang, P. Douglas Renfrew, Andrew J. Olsen, Michelle Zhang, Carlo Yuvienco, Richard Bonnaeu, Jin Kim Montclare.
<http://onlinelibrary.wiley.com/doi/10.1002/cbic.201402062/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+9th+Aug+from+10-2+BST+for+essential+maintenance.+Pay+Per+View+will+be+unavailable+from+10-6+BST.>

High-speed coherent Raman fingerprint imaging of biological tissues. Nature Photonics, Vol. 8, pp. 627 – 634, July 2014. Charles H. Camp Jr, Young Jong Lee, John M. Heddleston, Christopher M. Hartshorn, Angela R. Hight Walker, Jeremy N. Rich, Justin D. Lathia, Marcus T. Cicerone.
<http://www.nature.com/nphoton/journal/v8/n8/full/nphoton.2014.145.html>

Platelet bioreactor-on-a-chip. Blood, July 2014. Jonathan N. Thon, Linas Mazutis, Stephen Wu, Joanna L. Sylman, Allen Ehrlicher, Kellie R. Machlus, Qiang Feng, Shijiang Lu, Robert Lanza, Keith B. Neeves, David A. Weitz, Joseph E. Italiano Jr.
<http://www.bloodjournal.org/content/early/2014/07/18/blood-2014-05-574913?ssoc-checked=1>

The quantitative architecture of centromeric chromatin. eLife, July 2014. Dani L Bodor, João F Mata, Mikhail Sergeev, Ana Filipa David, Kevan J Salimian, Tanya Panchenko, Don W Cleveland, Ben E Black, Jagesh V Shah, Lars ET Jansen.
<http://elifesciences.org/content/3/e02137#sthash.GmHY8EFX.dpuf>

Single-cell genome-wide bisulfite sequencing for assessing epigenetic heterogeneity. Nature Methods, Vol. 11, pp. 817 – 820, July 2014. Sébastien A Smallwood, Heather J Lee, Christof Angermueller, Felix Krueger, Heba Saadeh, Julian Peat, Simon R Andrews, Oliver Stegle, Wolf Reik, Gavin Kelsey.
<http://www.nature.com/nmeth/journal/v11/n8/full/nmeth.3035.html>

Membrane Deformation by Neolectins with Engineered Glycolipid Binding Sites. Angewandte Chemie, July 2014. Julie Arnaud, Kevin Tröndle, Julie Claudinon, Aymeric Audfray, Annabelle Varrot, Winfried Römer, Anne Imberty.
<http://onlinelibrary.wiley.com/doi/10.1002/ange.201404568/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+9th+Aug+from+10-2+BST+for+essential+maintenance.+Pay+Per+View+will+be+unavailable+from+10-6+BST.>

BuD, a helix-loop-helix DNA-binding domain for genome modification. Acta Crystallographica, Section D: Biological Crystallography, Vol. 70, Part 7, July 2014. S. Stella, R. Molina, B. López-Méndez, A. Juillerat, C. Bertonati, F. Daboussi, R. Campos-Olivas, P. Duchateau, G. Montoya.
<http://scripts.iucr.org/cgi-bin/paper?S1399004714011183>

Measurement Techniques for Respiratory Tract Deposition of Airborne Nanoparticles: A Critical Review. Journal of Aerosol Medicine and Pulmonary Drug Delivery, Vol. 27, No. 4, pp. 229 - 254, 2014. Jakob Löndahl, Winfried Möller, Joakim H. Pagels, Wolfgang G. Kreyling, Erik Swietlicki, Otmar Schmid.
<http://online.liebertpub.com/doi/abs/10.1089/jamp.2013.1044>

CONFERENCES AND WORKSHOPS

NANOSMAT Conference, September 8 – 11, 2014, Dublin, Ireland

Drug delivery
Diagnostics
Imaging
Biosensors
Biomarkers
Biomaterials

<http://www.nanosmat-conference.com/default.asp>

Nano Measure 2014, September 16 – 17, 2014, Beijing, China

Films and membranes
Nanomechanical properties
Biomaterials
Single-molecule characterization

<http://www.nano-measure.com/>

Physical Chemistry of Functionalized Biomedical Nanoparticles, September 17 – 19, 2014, Bristol, UK

Magnetic nanoparticles
In vivo targeting

http://www.rsc.org/conferencesandevents/rsconferences/fd175/index.asp?utm_content=chemistry-conf&utm_source=non-rsc-website&utm_medium=link&utm_campaign=mkt-eet-fd175

ETP Nanomedicines Annual Event 2014, October 15 – 16, 2014, San Sebastian, Spain

Nanomedicine developments
Diagnostics & imaging
Nanotherapeutics
Regenerative medicine
Clinical interface
Toxicology & Characterization

<http://www.etp-nanomedicine.eu/public/news-events/events/etp-nanomedicine-annual-event-2014-1/etp-annual-event-2014-programme>

Trends in Nanotechnology International Conference, October 27 – 31, 2014, Barcelona, Spain

Nanofabrication tools
Nanoscale integration
Toxicity
Regulation
Nanobiotechnology

<http://www.tntconf.org/2014/topics.php?conf=14>

Proteins and Nanoparticles @ Membranes 2014, 19 – 22 October, 2014, Juelich, Germany

Nanoparticles
Biological systems

http://www.fz-juelich.de/ics/ics-2/EN/Leistungen/ConferencesAndWorkshops/Particles@Membranes/_node.html

Nanoinformatics for Environmental Health and Biomedicine, 2 – 5 November 2014, Belfast, UK

Data management
Nanomaterial characterization
Computing applications for nanomedicine

<http://nanoinfo2014.weebly.com/>

NanoCon 2014, 5 – 7 November, Brno, Czech Republic

Tissue engineering
Biochemical applications
Nano-implants
Anti-tumor therapy

<http://www.nanocon.eu/en/topics/>

1st European Conference on Pharmaceutics: Drug Delivery

Targeting
Liposomes and nanoparticles

<http://www.apgi.org/Reims2015.htm>

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.

This newsletter is provided as a public service and resource to the scientific and regulatory community interested in nanomedicines. The mention of any organizations, conferences or other events in this newsletter IS FOR INFORMATIONAL PURPOSES ONLY and does not represent an endorsement by the Nanomedicines Alliance or any of its members.