



Nanomedicines ALLIANCE

NanoMed Digest

Amgen • AstraZeneca • Bind Therapeutics • Cerulean Pharma Inc. • CytImmune • Eli Lilly • Liquidia Technologies • Nanobiotix • NanoCarrier Co. Ltd. • NanoViricides, Inc. • Pfizer

Please consider joining the Nanomedicines Alliance. If you are interested, please contact us at info@nanomedicines-alliance.org.

Regulatory and Legislative Developments

Nano Health & Safety Consortium

The National Institute for Occupational Safety and Health (NIOSH) has [launched a partnership](#) with SUNY Polytechnic Institute's Colleges of Nanoscale Science and Engineering (SUNY Poly CNSE) to establish the Nano Health & Safety Consortium. This Consortium will focus on advancing research and guidance for occupational safety and health in nanotechnology-related industries, and include members from the government, academia, and industry. The Consortium hopes to create research opportunities and support nanomanufacturing growth and safe commercialization of nanomaterial products.

NIOSH Paper on "Risks to health care workers from nano-enabled medical products"

Two NIOSH representatives, Vladimir Murashov and John Howard, recently [authored a paper](#) in the Journal of Occupational and Environmental Hygiene on occupational risk mitigation practices for nano-enabled medical products throughout their life cycle for workplace settings, including medical research laboratories and pharmaceutical manufacturing facilities.

Reviews and Other Publications of Interest

[Dispersibility-Dependent Biodegradation of Graphene Oxide by Myeloperoxidase](#). Small, May 2015. Rajendra Kurapati, Julie Russier, Marco A. Squillaci, Emanuele Treossi, Cécilia Ménard-Moyon, Antonio Esaú Del Rio-Castillo, Ester Vazquez, Paolo Samorì, Vincenzo Palermo, Alberto Bianco.

[Functionalised nanoscale coatings using layer-by-layer assembly for imparting antibacterial properties to polylactide-co-glycolide surfaces](#). Acta Biomaterialia, Vol. 21, pp. 35 – 43, 2015. Piergiorgio Gentile, Maria E. Frongia, Mar Cardellach, Cheryl A. Miller, Graham P. Stafford, Graham J. Leggett, Paul V. Hatton.

[MRI Virtual Biopsy and Treatment of Brain Metastatic Tumors with Targeted Nanobioconjugates: Nanoclinic in the Brain](#). ACS Nano, Vol. 9, No. 5, pp. 5594 – 5608, April 2015. Rameshwar Patil, Alexander V. Ljubimov, Pallavi R. Gangalum, Hui Ding, Jose Portilla-Arias, Shawn Wagner, Satoshi Inoue, Bindu Konda, Arthur Rekechenetskiy, Alexandra Chesnokova, Janet L. Markman, Vladimir A. Ljubimov, Debiao Li, Ravi S. Prasad, Keith L. Black, Eggehard Holler, Julia Y. Ljubimova.

[Selective transformations between nanoparticle superlattices via the reprogramming of DNA-mediated interactions](#). Nature Materials, May 2015. Yugang Zhang, Suchetan Pal, Babji Srinivasan, Thi Vo, Sanat Kumar, Oleg Gang.

[Prescribed nanoparticle cluster architectures and low-dimensional arrays built using octahedral DNA origami frames](#). Nature Nanotechnology, May 2015. Ye Tian, Tong Wang, Wenyan Liu, Huolin L. Xin, Huilin Li, Yonggang Ke, William M. Shih, Oleg Gang.

[Small Molecule MYC Inhibitor Conjugated to Integrin-Targeted Nanoparticles Extends Survival in a Mouse Model of Disseminated Multiple Myeloma](#). Molecular Cancer Therapeutics, June 2015. Deepti Soodgupta, Dipanjan Pan, Grace Cui, Angana Senpan, Xiaoxia Yang, Lan Lu, Katherine N. Weilbaecher, Edward V. Prochownik, Gregory M. Lanza, Michael H. Tomasson.

[Gold nanoparticles with different charge and moiety induce differential cell response on mesenchymal stem cell osteogenesis](#). Biomaterials, Vol. 54, pp. 226 – 236, June 2015. Jia'En Jasmine Li, Naoki Kawazoe, Guoping Chen.

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

[A microfluidic device for label-free, physical capture of circulating tumor cell clusters.](#) Nature Methods, May 2015. A Fatih Sarioglu, Nicola Aceto, Nikola Kojic, Maria C Donaldson, Mahnaz Zeinali, Bashar Hamza, Amanda Engstrom, Huili Zhu, Tilak K Sundaresan, David T Miyamoto, Xi Luo, Aditya Bardia, Ben S Wittner, Sridhar Ramaswamy, Toshi Shioda, David T Ting, Shannon L Stott, Ravi Kapur, Shyamala Maheswaran, Daniel A Haber, Mehmet Toner.

[Single-cell Migration Chip for Chemotaxis-based Microfluidic Selection of Heterogeneous Cell Populations.](#) Scientific Reports, Vol. 5, No. 9980, May 2015. Yu-Chih Chen, Steven G. Allen, Patrick N. Ingram, Ronald Buckanovich, Sofia D. Merajver, Euisik Yoon.

[Silencing \$\beta 3\$ Integrin by Targeted ECO/siRNA Nanoparticles Inhibits EMT and Metastasis of Triple-Negative Breast Cancer.](#) Cancer Research, June 2015. Jenny G. Parvani, Maneesh D. Gujrati, Margaret A. Mack, William P. Schiemann, Zheng-Rong Lu.

[Comparative analysis of the secondary electron yield from carbon nanoparticles and pure water medium.](#) The European Physical Journal D, April 2015. Alexey Verkhovtsev, Sally McKinnon, Pablo de Vera, Eugene Surdutovich, Susanna Guatelli, Andrei V. Korol, Anatoly Rosenfeld, Andrey V. Solov'yov.

[Tailoring pathway modularity in the biosynthesis of erythromycin analogs heterologously engineered in E. coli.](#) Science Advances, May 2015. Guojian Zhang, Yi Li, Lei Fang, Blaine A. Pfeifer.

[Synthesis of Highly Functionalized Decalins via Metallacycle-Mediated Cross-Coupling.](#) Journal of the American Chemical Society, Vol. 137, No. 20, pp. 6624 – 6628, June 2015. Haruki Mizoguchi and Glenn C. Micalizio.

[Delivering nanomedicines to Patients: A Practical Guide.](#) Nanomedicine: Nanotechnology, Biology, and Medicine, Vol. 11, Issue 4, pp. 983 – 992, May 2015. Mike A.W. Eaton, Laurent Levy, Olivier M.A. Fontaine.

[Encapsulation of Curcumin in Diblock Copolymer Micelles for Cancer Therapy.](#) BioMed Research International, 2015. Ali Mohammad Alizadeh, Majid Sadeghizadeh, Farhood Najafi, Sussan K. Ardestani, Vahid Erfani-Moghadam, Mahmood Khaniki, Arezou Rezaei, Mina Zamani, Saeed Khodayari, Hamid Khodayari, Mohammad Ali Mohagheghi.

[Porous Silicon Microparticle Potentiates Anti-Tumor Immunity by Enhancing Cross-Presentation and Inducing Type I Interferon Response.](#) Cell Reports, Vol. 11, Issue 6, pp. 957 – 966, May 2015. Xiaojun Xia, Junhua Mai, Rong Xu, Jorge Enrique Tovar Perez, Maria L. Guevara, Qi Shen, Chaofeng Mu, Hui-Ying Tung, David B. Corry, Scott E. Evans, Xuewu Liu, Mauro Ferrari, Zhiqiang Zhang, Xian Chang Li, Rong-fu Wang, Haifa Shen.

[A Hyaluronan-Based Injectable Hydrogel Improves the Survival and Integration of Stem Cell Progeny following Transplantation.](#) Stem Cell Reports, Vol. 4, Issue 6, pp. 1031 – 1045, June 2015. Brian G. Ballios, Michael J. Cooke, Laura Donaldson, Brenda L.K. Coles, Cindi M. Morshead, Derek van der Kooy, Molly S. Shoichet.

[Efficient Detection and Purification of Cell Populations Using Synthetic MicroRNA Switches.](#) Cell Stem Cell, Vol. 16, Issue 6, pp. 699 – 711, June 2015. Kenji Miki, Kei Endo, Seiya Takahashi, Shunsuke Funakoshi, Ikue Takei, Shota Katayama, Taro Toyoda, Maki Kotaka, Tadashi Takaki, Masayuki Umeda, Chikako Okubo, Misato Nishikawa, Akiko Oishi, Megumi Narita, Ito Miyashita, Kanako Asano, Karin Hayashi, Kenji Osafune, Shinya Yamanaka, Hirohide Saito, Yoshinori Yoshida.

[Small-Molecule Bcl2 BH4 Antagonist for Lung Cancer Therapy.](#) Cancer Cell, Vol. 27, Issue 6, pp. 852 – 863, June 2015. Bingshe Han, Dongkyoo Park, Rui Li, Maohua Xie, Taofeek K. Owonikoko, Guojing Zhang, Gabriel L. Sica, Chunyong Ding, Jia Zhou, Andrew T. Magis, Zhuo G. Chen, Dong M. Shin, Suresh S. Ramalingam, Fadlo R. Khuri, Walter J. Curran, Xingming Deng.

Conferences and Workshops

[NNI/CPSC Workshop on Quantifying Exposure to Engineered Nanomaterials \(QEEN\) from Manufactured Products, 7 – 8 July 2015, Arlington, VA](#)
Toxicology

[International Society for Biomedical Polymers and Polymeric Biomaterials, 8 – 10 July 2015, Orlando, FL](#)
Nanocomposites
Drug delivery systems
Controlled release systems
Biomedical pharmaceutical polymers

The European Summit for Clinical Nanomedicine and Targeted Medicine - The Translation to Knowledge Based Nanomedicine, 28 June – 1 July 2015, Basel, Switzerland

Personalized medicine
Cancer therapies
Regulatory perspectives

Nano Korea 2015, 1 – 3 July 2015, Seoul, Korea

Nanobiomaterials
Nanobiosensors
Nanobiocatalysis
Optical Nanoprobes
Optical Surgical Navigation
Nanotheranostics

International Conference on Biomedical Engineering and Systems, 13 – 14 July 2015, Barcelona, Spain

Biomedical devices
Biomaterials
Drug design
Nanotechnology for biomedical applications

International Conference on Nanotechnology: Fundamentals and Applications, 15 – 17 July 2015, Barcelona Spain

Cancer Therapy
Cell-based Regenerative Medicine

International Conference on Advanced Nanomaterials, 20 – 22 July 2015, Aveiro, Portugal

Nanomedicine
Graphene Technology

Trends in Nanotechnology 2015, 7 – 11 September 2015, Toulouse, France

Toxicity
Modeling
Nanobiotechnologies

AAPS Workshop on Challenges in the Assessment of Similarity or Equivalence of (Non) Biological Complex Drug Products, 28 - 29 September, Baltimore, MD

Nanomedicines
Generics

The 5th International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale, 5 – 9 October 2015, Changchun, China

Nanoscale imaging
Nanorobotics

Crossing Biological Barriers – Advances in Nanocarrier Design for Targeted Delivery, 9 – 11 November 2015, Dresden, Germany

Biodistribution and In Vivo Imaging of Nanoparticles
Scale-up, Translational and Regulatory Issues of Drug Delivery Systems
Targeted Drug Delivery Systems (Oral, Ocular, Pulmonary, Dermal, Blood Brain Barrier Crossing)

Reference Section

Nanobio- and Nanomedicine Companies

[Listed alphabetically](#)

Nano Organizations

[National Center for Toxicological Research](#) (NCTR)

[National Nanotechnology Initiative](#) (NNI)

[Nano Science and Technology Consortium](#) (NSTC)

[Nano Science and Technology Institute](#) (NSTI)

[The Nanotechnology Institute](#) (NTI)

Nano Journals

[American Chemical Society -- Nano Letters](#)

[Institute of Physics – Nanotechnology](#)

[Journal of Nanoscience and Nanotechnology](#)

[NanoTrends - A Journal of Nanotechnology and its Applications](#)

[BCC Research -- Nanotechnology Reports](#)

[Nanomedicine: Nanotechnology, Biology, and Medicine](#)

[Nanomedicine](#)

[Nature Nanotechnology](#)

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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