



Nanomedicines ALLIANCE NanoMed Digest

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

Regulatory and Legislative Developments

European Nanomedicine Characterisation Laboratory

On July 1, CEA Tech-Leti announced the launch of the [European Nano-Characterisation Laboratory](#) (NCL) to work on nanomedicine characterisation for medical indications such as cancer, diabetes, inflammatory diseases, and infections. These characterisations will be accessible to organizations developing nanomedicines. The NCL is part of the European Union's Horizon 2020 initiative for research and innovation and has partnered with the US Nanotechnology Characterization Laboratory to work toward international harmonization of analytical protocols and standardized regulatory requirements for clinical evaluation.

Nano EHS Protocols

The US National Institute of Standards and Technology (NIST) has published [detailed protocols for nanotechnology environmental, health, and safety](#) (EHS) research to aid in the harmonization of engineered nanomaterials and nanotechnology-enabled products property measurements to enable direct comparisons between laboratories and greater consistency in reporting. Protocols are currently available on sample preparation, physic-chemical measurements, and biological measurements.

Nanotechnology Risk Management Survey

The European Union FP7 Sustainable Nanotechnologies Project (SUN) has published a [survey on risk management of nanotechnology-enabled products](#) to develop a Technological Alternatives and Risk Management Measures (TARMM) inventory. This inventory will be linked to risk assessment tools in the SUN project's Decision Support System software, which is being designed to facilitate safe and sustainable manufacturing and risk management of nanomaterials.

Reviews and Other Publications of Interest

[Chitosan-Decorated Doxorubicin-Encapsulated Nanoparticle Targets and Eliminates Tumor Reinitiating Cancer Stem-like Cells](#). ACS Nano, Vol. 9, No. 6, pp. 5725 – 5740, May 2015. Wei Rao, Hai Wang, Jianfeng Han, Shuting Zhao, Jenna Dumbleton, Pranay Agarwal, Wujie Zhang, Gang Zhao, Jianhua Yu, Debra L. Zynger, Xiongbin Lu, Xiaoming He.

[Fast, multi-frequency, and quantitative nanomechanical mapping of live cells using the atomic force microscope](#). Scientific Reports, Vol. 5, Article No. 1692, June 2015. Alexander X. Cartagena-Rivera, Wen-Hong Wang, Robert L. Geahlen, Arvind Raman.

[Digital microfluidic immunocytochemistry in single cells](#). Nature Communications, Vol. 6, Article No.

7513, June 2015. Alphonsus H. C. Ng, M. Dean Chamberlain, Haozhong Situ, Victor Lee, Aaron R. Wheeler.

[Remote-controlled eradication of astrogliosis in spinal cord injury via electromagnetically-induced dexamethasone release from "smart" nanowires](#). Journal of Controlled Release, Vol. 211, pp. 22 – 27, August 2015. Wen Gao, Richard Ben Borgens.

[Undulatory Locomotion of Magnetic Multilink Nanoswimmers](#). Nano Letters, Vol. 15, No. 7, pp. 4829 – 4833, June 2015. Bumjin Jang, Emiliya Gutman, Nicolai Stucki, Benedikt F. Seitz, Pedro D. Wendel-García, Taylor Newton, Juho Pokki, Olgaç Ergeneman, Salvador Pané, Yizhar Or, Bradley J. Nelson.

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Tunable Luminescent Carbon Nanospheres with Well-Defined Nanoscale Chemistry for Synchronized Imaging and Therapy. Small, May 2015. Prabuddha Mukherjee, Santosh K. Misra, Mark C. Gryka, Hwei-Hwei Chang, Saumya Tiwari, William L. Wilson, John W. Scott, Rohit Bhargava, Dipanjan Pan.

Internal Magnetic Structure of Nanoparticles Dominates Time-Dependent Relaxation Processes in a Magnetic Field. Advanced Functional Materials, Vol. 25, Issue 27, pp. 4300 – 4311, July 2015. Cindi L. Dennis, Kathryn L. Krycka, Julie A. Borchers, Ryan D. Desautels, Johan van Lierop, Natalie F. Huls, Andrew J. Jackson, Cordula Gruettner, Robert Ivkov.

Syringe-injectable electronics. Nature Nanotechnology, Vol. 10, pp. 629 - 636, June 2015. Jia Liu, Tian-Ming Fu, Zengguang Cheng, Guosong Hong, Tao Zhou, Lihua Jin, Madhavi Duvvuri, Zhe Jiang, Peter Kruskal, Chong Xie, Zhigang Suo, Ying Fang, Charles M. Lieber.

Use of Autoantigen-Loaded Phosphatidylserine-Liposomes to Arrest Autoimmunity in Type 1 Diabetes. PLOS One, June 2015. Irma Pujol-Autonell, Arnau Serracant-Prat, Mary Cano-Sarabia, Rosa M. Ampudia, Silvia Rodriguez-Fernandez, Alex Sanchez, Cristina Izquierdo, Thomas Stratmann, Manuel Puig-Domingo, Daniel MasPOCH, Joan Verdaguer, Marta Vives-Pi.

All-nanophotonic NEMS biosensor on a chip. Scientific Reports, Vol. 5, Article No. 10968, June 2015. Dmitry Yu. Fedyanin, Yury V. Stebunov.

Graphene coatings for chemotherapy: avoiding silver-mediated degradation. 2D Materials, Issue 2, June 2015. Federico Mazzola, Thuat Trinh, Simon Cooil, Elise Ramleth Østli, Kristin Høydalsvik, Eirik Torbjørn Bakken Skjønsfjell, Signe Kjelstrup, Alexei Preobrajenski, Attilio A Cafolia, D Andrew Evans, Dag W Breiby, Justin W Wells.

Detection of pathological biomarkers in human clinical samples via amplifying genetic switches and logic gates. Science Translational Medicine, May 2015. Alexis Courbet, Drew Endy, Eric Renard, Franck Molina, Jérôme Bonnet.

Dynamic polymer systems with self-regulated secretion for the control of surface properties and material healing. Nature Materials, June 2015. Jiayi Cui, Daniel Daniel, Alison Grinthal, Kaixiang Lin, Joanna Aizenberg.

The interaction of carbon nanotubes with an in vitro blood-brain barrier model and mouse brain in vivo. Biomaterials, Vol. 53, pp. 437 – 452, June 2015. Houmam Kafa, Julie Tzu-Wen Wang, Noelia Rubio, Kerrie Venner, Glenn Anderson, Elzbieta Pach, Belén Ballesteros, Jane E. Preston, N. Joan Abbott, Khuloud T. Al-Jamal.

Silver nanoparticles: synthesis, properties, and therapeutic applications. Drug Discovery Today, Vol. 20, Issue 5, pp. 595 – 601, May 2015. Liuya Wei, Jingran Lu, Huizhong Xu, Atish Patel, Zhe-Sheng Chen, Guofang Chen.

Conferences and Workshops

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 2015, Baltimore, MD

Nanomedicines
Generics

NANOSMAT Conference, 13 – 16 September 2015, Manchester, UK

Nanomaterials
Nanomedicines
Nanobiotechnology

FDA/PQRI Conference on Advancing Product Quality, 5 – 7 October 2015, Bethesda, MD

Risk management and quality assurance
Product development
Emerging regulatory topics
Regulatory submission, assessment, and inspection

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

Nanoscale imaging
Nanorobotics

ETP Nanomedicine Annual Event, 12 – 14 October 2015, Dublin, Ireland

Nanomedicinal success in FP7
Nanomedical ecosystem
Regenerative medicine and biomaterials

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Applied Nanotechnology and Nanoscience International Conference, 5 – 7 November 2015, Paris France

Nanomedicine
Nanobiotechnology

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)

Infectious Diseases and Nanomedicines 2015, 15 – 18 December 2015, Kathmandu, Nepal

Cellular and Molecular Microbiology of Infectious Diseases
Epidemiology and Infectious Diseases Surveillance
Microbiome in Health and Infectious Diseases
Immune Response against Infectious Pathogens
Antimicrobials, Vaccines and Alternatives
Drug Design, Drug Delivery and Tissue Engineering

10th World Meeting on Pharmaceutics, Biopharmaceutics, and Pharmaceutical Technology, 4 – 7 April 2016, Glasgow, United Kingdom

2D and 3D printing in drug delivery
Nanoparticles
Cellular drug transport

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](#)
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[Nature Nanotechnology](#)

Contact

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