



Nanomedicines ALLIANCE NanoMed Digest

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Australian Nanotechnology Report

The Australian Pesticides and Veterinary Medicines Authority has [published a report](#) reviewing current nanotechnology use in Australia for pesticides and veterinary medicine and providing recommendations on opportunities in nanotechnology and characterization for risk assessment. The report additionally aims to highlight regulatory consideration for nanomaterials in the environment. Recommendations include that a whole life-cycle approach be applied to the assessment of nanomaterials and be considered during product development, as well as the continued use of existing regulatory frameworks for nanomedicines in the foreseeable future.

Definition of Nanomaterial

The European Commission's [Joint Research Center \(JRC\) recently issued a report](#) providing "scientific-technical evaluation of options to clarify the EC Recommendation on a definition of nanomaterial", which were published in 2011. The JRC recommends some clarification of terms in the current definition and of the role of volume-specific surface area, as well as additional implementation guidance. The JRC evaluation would also like to explore methodology to prove that a material is not nanoscale.

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.

[Quantification and real-time tracking of RNA in live cells using Sticky-flares.](#) Proceedings of the National Academy of Sciences, Vol. 112, No. 31, August 2015. William E. Briley, Madison H. Bondy, Pratik S. Randeria, Torin J. Dupper, Chad A. Mirkin.

[Gold/diamond nanohybrids for quantum sensing applications.](#) EPJ Quantum Technology, July 2015. Pei-Chang Tsai, Oliver Y Chen, Yan-Kai Tzeng, Yuen Yung Hui, Jiun You Guo, Chih-Che Wu, Ming-Shien Chang, Huan-Cheng Chang.

[Crystallization by particle attachment in synthetic, biogenic, and geologic environments.](#) Science, Vol. 349, No. 6247, July 2015. James J. De Yoreo, Pupa U. P. A. Gilbert, Nico A. J. M. Sommerdijk, R. Lee Penn, Stephen Whitelam, Derk Joester, Hengzhong Zhang, Jeffrey D. Rimer, Alexandra Navrotsky, Jillian F. Banfield, Adam F. Wallace, F. Marc Michel, Fiona C. Meldrum, Helmut Cölfen, Patricia M. Dove.

[Wireless Optofluidic Systems for Programmable In Vivo Pharmacology and Optogenetics.](#) Cell, Vol. 162, Issue 3, pp. 662 – 674, July 2015. Jae-Woong Jeong, Jordan G. McCall, Gunchul Shin, Yihui Zhang, Ream Al-Hasani, Minku Kim, Shuo Li, Joo Yong Sim, Kyung-In Jang, Yan Shi, Daniel Y. Hong, Yuhao Liu, Gavin P. Schmitz, Li Xia, Zhubin He, Paul Gamble, Wilson Z. Ray, Yonggang Huang, Michael R. Bruchas, John A. Rogers.

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Plasmonic Tipless Pyramid Arrays for Cell Poration. Nano Letters, Vol. 15, Issue 7, pp. 4461 – 4466, July 2015. Sébastien Courvoisier, Nabih Saklayen, Marinus Huber, Jun Chen, Eric D. Diebold, Luigi Bonacina, Jean-Pierre Wolf, and Eric Mazur.

Nitric Oxide–Releasing Nanoparticles Prevent Propionibacterium acnes–Induced Inflammation by Both Clearing the Organism and Inhibiting Microbial Stimulation of the Innate Immune Response. Journal of Investigative Dermatology, July 2015. Min Qin, Angelo Landriscina, Jamie M Rosen, Gabrielle Wei, Stephanie Kao, William Olcott, George W Agak, Karin B Paz, Josephine Bonventre, Alicea Clendaniel, Stacey Harper, Brandon L Adler, Aimee E Krausz, Joel M Friedman, Joshua D Nosanchuk, Jenny Kim and Adam J Friedman.

Enrichment and Expansion with Nanoscale Artificial Antigen Presenting Cells for Adoptive Immunotherapy. ACS Nano, Vol. 9, Issue 7, pp. 6861 – 6871, July 2015. Karlo Perica, Joan Glick Bieler, Christian Schütz, Juan Carlos Varela, Jacqueline Douglass, Andrew Skora, Yen Ling Chiu, Mathias Oelke, Kenneth Kinzler, Shibin Zhou, Bert Vogelstein, Jonathan P. Schneck.

Therapeutic Enzyme-Responsive Nanoparticles for Targeted Delivery and Accumulation in Tumors. Advanced Materials, July 2015. Cassandra E. Callmann, Christopher V. Barback, Matthew P.

Thompson, David J. Hall, Robert F. Mattrey, Nathan C. Gianneschi.

Hydrogel-Coated Near Infrared Absorbing Nanoshells as Light-Responsive Drug Delivery Vehicles. ACS Biomaterials Science & Engineering, Vol. 1, Issue 8, pp. 685 – 692, June 2015. Laura E. Strong and Jennifer L. West.

Polymeric Nanoparticles for Nonviral Gene Therapy Extend Brain Tumor Survival in Vivo. ACS Nano, Vol. 9, No. 2, pp. 1236 – 1249, July 2015. Antonella Mangraviti, Stephany Yi Tzeng, Kristen Lynn Kozielski, Yuan Wang, Yike Jin, David Gullotti, Mariangela Pedone, Nitsa Buaron, Ann Liu, David R. Wilson, Sarah K. Hansen, Fausto J. Rodriguez, Guo-Dong Gao, Francesco DiMeco, Henry Brem, Alessandro Olivi, Betty Tyler, Jordan J. Green.

Atomic gold–enabled three-dimensional lithography for silicon mesostructures. Science, Vol. 348, No. 6242, pp. 1451 – 1455, June 2015. Zhiqiang Luo, Yuanwen Jiang, Benjamin D. Myers, Dieter Isheim, Jinsong Wu, John F. Zimmerman, Zongan Wang, Qianqian Li, Yucai Wang, Xinqi Chen, Vinayak P. Dravid, David N. Seidman, Bozhi Tian.

Nanoparticle-Stabilized Capsules for the Treatment of Bacterial Biofilms. ACS Nano, June 2015. Bradley Duncan, Xiaoning Li, Ryan F. Landis, Sung Tae Kim, Akash Gupta, Li-Sheng Wang, Rajesh Ramanathan, Rui Tang, Jeffrey A. Boerth, Vincent M. Rotello.

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

Panel co-chaired by Nanomedicines Alliance and FDA on “Current Challenges in the Characterization of Complex Drug Formulations Containing Nanomaterials”

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

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 Pharmaceuticals, Biopharmaceuticals, 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](#)
[Nanomedicine](#)
[Nature Nanotechnology](#)

Contact

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