



# Nanomedicines ALLIANCE

## NanoMed Digest

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- Meet with industry colleagues, government partners, and other stakeholders
- Help define the issues of science, regulation, and policy
- Participate in our ongoing advocacy, regulatory, and scientific efforts
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## Regulatory and Legislative Developments

### 2016 CDER Draft Guidances

The Center for Drug Evaluation and Research (CDER) has released its list of [planned draft guidance for 2016](#). Among others, CDER plans to issue draft guidance on Nanomaterials in Drug and Biologic Products.

### AAPS Nanomaterials Regulatory Webinar

AAPS has published a recording of its July 2015 webinar on [Drug Products Containing Nanomaterials: Regulatory Pathways and Quality Review](#). The webinar was presented by Peng Zou, a chemistry review at FDA's Office of Pharmaceutical Quality (OPQ). The webinar agenda included information on regulatory pathways open to drug products containing nanomaterials, submission requirements, application of Quality-by-Design approach, quality control strategies, and more.

### National Medal of Technology and Innovation

Dr. Joseph DeSimone, a leading scientist and founder in the nanomedicine space, has been awarded the [National Medal of Science and National Medal of Technology and Innovation](#) by the White House for 2016. Dr. DeSimone is the founder of Liquidia Technologies and a professor at the University of North Carolina at Chapel Hill.

## Reviews and Other Publications of Interest

[Flexible Sheet-Type Sensor for Noninvasive Measurement of Cellular Oxygen Metabolism on a Culture Dish](#). PLOS One, December 2015. Mari Kojima, Hiroaki Takehara, Takanori Akagi, Hirofumi Shiono, Takanori Ichiki.

[In situ vaccination with cowpea mosaic virus nanoparticles suppresses metastatic cancer](#). Nature Nanotechnology, December 2015. P. H. Lizotte, A. M. Wen, M. R. Sheen, J. Fields, P. Rojanasopondist, N. F. Steinmetz, S. Fiering.

[Toward Microfluidic Reactors for Cell-Free Protein Synthesis at the Point-of-Care](#). Small, December 2015. Andrea C. Timm, Peter G. Shankles, Carmen M. Foster, Mitchel J. Doktycz, Scott T. Retterer.

[Measurements of DNA barcode label separations in nanochannels from time-series data](#).

Biomicrofluidics, Vol. 9, December 2015. Julian Sheats, Jeffrey G. Reifengerger, Han Cao, Kevin D. Dorfman.

[Thermal microscopy of single biological cells](#).

Applied Physics Letters, December 2015. R. Legrand, M. Abi Ghanem, L. Plawinski, M.-C. Durrieu, B. Audoin, T. Dehoux.

[A three-drug nanoscale drug delivery system designed for preferential lymphatic uptake for the treatment of metastatic melanoma](#). Journal of Controlled Release, Volume 220, Part A, pp. 503–514, December 2015. Bhuvana S. Doddapaneni, Sergiy

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Kyryachenko, Sharmeen E. Chagani, Raid G. Alany, Deepa A. Rao, Arup K. Indra, Adam W.G. Alani.

**Self-assembled RNA-triple-helix hydrogel scaffold for microRNA modulation in the tumour microenvironment.** Nature Materials, December 2015. João Conde, Nuria Oliva, Mariana Atilano, Hyun Seok Song, Natalie Artzi.

**Physical nanoscale conduit-mediated communication between tumour cells and the endothelium modulates endothelial phenotype.** Nature Communications, Vol. 6, Article No. 8671, December 2015. Yamicia Connor, Sarah Tekleab, Shyama Nandakumar, Chelle Walls, Yonatan Tekleab, Amjad Husain, Or Gadish, Venkata Sabbiseti, Shelly Kaushik, Seema Sehrawat, Ashish Kulkarni, Harold Dvorak, Bruce Zetter, Elazer R. Edelman, Shiladitya Sengupta.

**AAPS Theme Issue: Translational Application of Nanodelivery Systems: Emerging Cancer Therapy.**

**Ultrasound ablation enhances drug accumulation and survival in mammary carcinoma models.** The Journal of Clinical Investigation, November 2015. Andrew W. Wong, Brett Z. Fite, Yu Liu, Azadeh Kheirloom, Jai W. Seo, Katherine D. Watson, Lisa M. Mahakian, Sarah M. Tam, Hua Zhang, Josquin Foiret, Alexander D. Borowsky, Katherine W. Ferrara.

**A Near-Infrared Laser-Activated “Nanobomb” for Breaking the Barriers to MicroRNA Delivery.** Advanced Materials, November 2015. Hai Wang, Pranay Agarwal, Shuting Zhao, Jianhua Yu, Xiongbin Lu, Xiaoming He.

**Boundaries can steer active Janus spheres.** Nature Communications, Vol. 6, Article No. 8999, December 2015. Sambeeta Das, Astha Garg, Andrew I. Campbell, Jonathan Howse, Ayusman Sen, Darrell Velegol, Ramin Golestanian, Stephen J. Ebbens.

**Transformable liquid-metal nanomedicine.** Nature Communications, Vol. 6, Article No. 10066, December 2015. Yue Lu, Quanyin Hu, Yiliang Lin, Dennis B. Pacardo, Chao Wang, Wujin Sun, Frances S. Ligler, Michael D. Dickey, Zhen Gu.

## Conferences and Workshops

**International Symposium on Nanobiotechnology,**  
**3 – 5 February 2016, Los Angeles, CA**  
 Therapeutics  
 In Vivo imaging  
 Regenerative medicine  
 Oncology  
 Drug development  
 Automated drug release

**Kuwait International Nanotechnology Conference,**  
**9-11 February 2016, Kuwait**  
 Drug delivery  
 Therapy techniques  
 Cell repair  
 Regenerative medicine

**NanoEngineering for Medicine and Biology Conference,**  
**21 – 24 February 2016, Houston, TX**  
 Nanomaging  
 Nanoparticle-based delivery  
 Nano and Microfluidics

**International Conference on Nanomedicine, Drug Delivery, and Tissue Engineering,**  
**1 – 2 April 2016, Prague, Czech Republic**  
 Cancer and Nanotechnology  
 Clinical Application of Nanotechnology  
 Gene Delivery Systems  
 Nanomedical Technologies

**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

**Bionanomaterials Conference,**  
**8 – 11 May 2016, Varna Bulgaria**  
 Synthesis  
 Characterization  
 Toxicity  
 Therapeutics

**International Nanotechnology Congress,**  
**1 – 4 June 2016, Boston, MA**  
 Regulatory landscape  
 Biomedical applications  
 Nanocommercialization

**Nano in Bio 2016,**  
**31 May – 5 June 2016, Le Gosier, French West Indies**  
 Biosensors & nanobioelectronics  
 Bio-inspired materials & drug delivery  
 Nanobiomechanics & nanomedicine  
 Tissue engineering & regenerative medicine  
 Nanotechnologies & biomedical applications

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**International Conference on Nanosciences & Nanotechnologies,**

**5-8 July 2016, Thessaloniki, Greece**

Biological systems

Self-assembly and self-organization

Cell/nanomaterial interactions

## Reference Section

### **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](#)

[Future Medicine](#)

[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](mailto:info@nanomedicines-alliance.org).

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