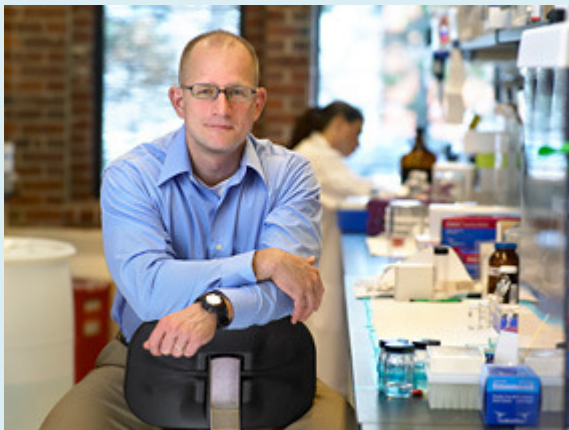




## MEMBER SPOTLIGHT: MARC WOLFGANG



Marc is the Vice President of Pharmaceutical Sciences and Manufacturing at Cerulean Pharma Inc. He received a B.S. in Biology with a concentration on Genetics from the Pennsylvania State University and a M.S. in Chemistry from Montclair State University. His work at Cerulean focuses on process development, manufacture and control of nanomedicines for clinical development. He is also the program leader for Cerulean's CRLX301 drug program and leads a group focusing on the development of next generation nanomedicines platforms.

Marc has previously held positions in research, analytical development, manufacturing, quality and regulatory affairs at several academic institutions and pharma/biotech companies including New York University, Boehringer Ingelheim, Biogen, Millennium, and Momenta. He is currently a steering committee member of AAPS's Nanotechnology Focus Group and has presented on nanomedicines manufacture to NCI's industry alliance for the Translation of Nanotechnology in Cancer (TONIC).

## REGULATORY AND LEGISLATIVE DEVELOPMENTS

### European Medicines Agency Releases Reflection Paper on Coated Nanomedicines

The European Medicines Agency (EMA) has published a paper covering topics for consideration during the development of nanomedicines with a coating. The coating could potentially impact the stability, pharmacokinetics, and biodistribution of the drug. The surface coating of a nanomedicine can also interact with other molecules in the biological environment. The paper stresses the need for careful evaluation of both covalently-bound and non-covalently associated coatings for both the safety and efficacy of nanomedicinal products.

[http://www.ema.europa.eu/docs/en\\_GB/document\\_library/Scientific\\_guideline/2013/08/WC500147874.pdf](http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2013/08/WC500147874.pdf)

### Book on Nanotechnology and Human Health

A new book, entitled "Nanotechnology and Human Health," was released in August 2013. It reviews current applications and developments of nanotechnology in medicine, agriculture, and the environment. The book also covers current issues of nanotoxicology, as well as the ethical, legal, and social implications of nanotechnology. <http://www.nanowerk.com/news2/newsid=32005.php>

### ANVISA Focus on Nanotechnology

Brazil's National Agency for Sanitary Surveillance (ANVISA) has renewed its cooperation agreement with the National Council for Scientific and Technological Development of Brazil. The agencies' cooperation will emphasize further research on nanomedicines and developments in regulations for nanotechnology. <http://portal.anvisa.gov.br/wps/content/anvisa+portal/anvisa/sala+de+imprensa/menu+-+noticias+anos/2013+noticias/publicado+novo+termo+de+cooperacao+entre+anvisa+e+cnpq>

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

## REVIEWS AND OTHER PUBLICATIONS OF INTEREST

**Nanosized Aspirin-Arg-Gly-Asp-Val: Delivery of Aspirin to Thrombus by the Target Carrier Arg-Gly-Asp-Val Tetrapeptide.** ACS Nano, August 2013. Shaoming Jin, Yaonan Wang, Haimei Zhu, Yuji Wang, Shurui Zhao, Ming Zhao, Jiawang Liu, Jianhui Wu, Wen Gao, and Shiqi Peng.

<http://pubs.acs.org/doi/abs/10.1021/nn402171v>

**Mechanisms of hyperthermia in magnetic nanoparticles.** IOP Science, Journal of Physics D: Applied Physics, August 2013, Vol. 46, No. 31. G. Vallejo-Fernandez, O. Whear, A.G. Roca, S. Hussain, J. Timmis, V. Patel, K. O'Grady.

<http://iopscience.iop.org/0022-3727/46/31/312001/>

**Efficiency of siRNA delivery by lipid nanoparticles is limited by endocytic recycling.** Nature Biotechnology, 2013, Vol. 31, pp. 653-658. Gaurav Sahay, William Querbes, Christopher Alabi, Ahmed Eltoukhy, Sovan Sarkar, Christopher Zurenko, Emmanouil Karagiannis, Kevin Love, Delai Chen, Roberto Zoncu, Yosef Buganim, Avi Schroeder, Robert Langer, Daniel G Anderson.

<http://www.nature.com/nbt/journal/v31/n7/full/nbt.2614.html>

**Label-Free Detection of Single Protein Using a Nanoplasmonic-Photonic Hybrid Microcavity.** Nano Letters, 2013, Vol. 13, No. 7, pp. 3347-3351. Venkata R. Dantham, Stephen Holler, Curtis Barbre, David Keng, Vasily Kolchenko, Stephen Arnold.

<http://pubs.acs.org/doi/abs/10.1021/nl401633y>

**Development of an Automated High-Throughput Screening Procedure for Nanomaterials Genotoxicity Assessment.**

Safe Work Australia, 2013. Nico Voelcker, Michael Fenech, Giuseppe Vecchio, Emily Anglin, Barbara Sanderson, Clare Cooksley, Martin Sweetman, Josefine Splinter, Howard Morris.

<http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/789/Rapid-tox-research-report.pdf>

**Skin Dendritic Cell Targeting via Microneedle Arrays Laden with Antigen-Encapsulated Poly-d,l-lactide-co-Glycolide Nanoparticles Induces Efficient Antitumor and Antiviral Immune Responses.** ACS Nano, 2013, Vol. 7, No. 3, pp. 2042-2055. Marija Zaric, Oksana Lyubomska, Olivier Touzelet, Candice Poux, Sharifah Al-Zahrani, Francois Fay, Leah Wallace, Dorothea Terhorst, Bernard Malissen,

Sandrine Henri, Ultan F. Power, Christopher J. Scott, Ryan F. Donnelly, Adrien Kissenpfennig.

<http://pubs.acs.org/doi/abs/10.1021/nn304235j>

**Bone-Crack Detection, Targeting, and Repair Using Ion Gradients.** Angewandte Chemie, August 2013. Vinita Yadav, Jonathan D. Freedman, Mark Grinstaff, Ayusman Sen.

<http://onlinelibrary.wiley.com/doi/10.1002/anie.201305759/abstract;jsessionid=D0C6EAF4A86537FE75077FF0F0B5F02F.d02t01>

**Tuning self-assembly of hybrid PLA-P(MA-POSS) block copolymers in solution via stereocomplexation.** Polymer Chemistry, 2013, Issue 4, pp. 1250-1259. Beng H. Tan, Hazrat Hussain, Yew W. Leong, Ting T. Lin, Weng W. Tjiu, Chaobin He.

<http://pubs.rsc.org/en/Content/ArticleLanding/2013/PY/c2py20823g#!divAbstract>

**Emergent Properties of Nanosensor Arrays: Applications for Monitoring IgG Affinity Distributions, Weakly Affined**

**Hypermannosylation, and Colony Selection for Biomanufacturing.** ACS Nano, August

2013. Nigel F. Reuel, Brittany Grassbaugh, Sebastian Kruss, J. Zachary Mundy, Cary Opel, Adebola O. Ogunniyi, Kamal Egodage, Ramon Wahl, Bernhard Helk, Jingqing Zhang, Z. Ilke Kalcioğlu, Kevin Tvrđy, Darin O. Bellisario, Bin Mu, Steven S. Blake, Krystyn J. Van Vliet, J. Christopher Love, Karl Dane Wittrup, Michael S. Strano.

<http://pubs.acs.org/doi/abs/10.1021/nn403215e>

**Ex Vivo Programming of Dendritic Cells by Mitochondria-Targeted Nanoparticles to Produce Interferon-Gamma for Cancer Immunotherapy.** ACS Nano, 2013, Vol. 7, No. 8, pp. 7392 – 7402. Sean Marrache, Smanla Tundup, Donald A. Harn, Shanta Dhar.

<http://pubs.acs.org/doi/abs/10.1021/nn403158n>

**Polymalic acid nanobioconjugate for simultaneous immunostimulation and inhibition of tumor growth in HER2/neu-positive breast cancer.** Journal of Controlled Release, 2013. Hui Ding, Gustavo Helguera,

José A. Rodríguez, Janet Markman, Rosendo Luria-Pérez, Pallavi Gangalum, Jose Portilla-Arias, Satoshi Inoue, Tracy R. Daniels-Wells, Keith Black, Eggehard Holler, Manuel L. Penichet, Julia Y. Ljubimova.

<http://www.sciencedirect.com/science/article/pii/S0168365913003350>

**Using Temperature-Sensitive Smart Polymers to Regulate DNA-Mediated Nanoassembly and Encoded Nanocarrier Drug Release.** ACS Nano, 2013, Vol. 7, No. 8, pp. 7011-7020. Kristen L. Hamner, Colleen M. Alexander, Kaitlin Coopersmith, David Reishofer, Christina Provenza, Mathew M. Maye.  
<http://pubs.acs.org/doi/abs/10.1021/nn402214e>

**Biomolecular robotics for chemomechanically driven guest delivery fuelled by intracellular ATP.** Nature Chemistry, 2013, Vol. 5, pp. 613-620. Shuvendu Biswas, Kazushi Kinbara, Tatsuya Niwa, Hideki Taguchi, Noriyuki Ishii, Sumiyo Watanabe, Kanjiro Miyata, Kazunori Kataoka, Takuzo Aida.  
<http://www.nature.com/nchem/journal/v5/n7/full/nchem.1681.html>

## CONFERENCES AND WORKSHOPS

### NanoForum, September 18-20, 2013, Rome Italy

Nanomedicines  
 Nanotoxicology  
<http://www.nanoforum.it/convegno/conference>

### ETP Nanomedicine General Assembly 2013, October 1-2, 2013, Grenoble, France

Regulatory Future of Nanomedicines  
 Nanodiagnostics  
 Nanotherapeutics  
 Regenerative Medicine  
 Toxicology & Characterization  
 Clinical Interface  
<http://www.etp-nanomedicine.eu/public/news-events/events/etp-nanomedicine-general-assembly-2013>

### Term Stem 2013, October 10-12, 2013, Porto, Portugal

Tissue Engineering  
 Regenerative Medicine  
<http://www.termstem.org/>

### Pharmaceutical Nanotechnology Congregation 2013, October 15-16, 2013, London, UK

Manufacturing  
 Applications  
 Regulatory Considerations  
 Nanotechnology in Healthcare  
<http://www.etp-nanomedicine.eu/public/news-events/events/pharmaceutical-nanotechnology-congregation-2013>

### Nanocon 2013, October 16-18, 2013, Brno, Czech Republic

Bionanotechnology  
 Antibacterial materials  
 Molecular analysis  
 Anti-tumor therapy  
 Targeted drug transport  
 Tissue engineering  
 Nano-implants  
<http://www.nanocon.eu/en/>

### 6th International Symposium on Nanotechnology, Occupational and

### Environmental Health, October 28-31, 2013, Nagoya, Japan

Nanomaterial processing and characterization  
 Health effects and toxicity  
 ADME  
 Environmental toxicity  
 Risk assessment and management  
<http://square.umin.ac.jp/nanoeh6/index.html>

### Carbon-Based Nano-Materials and Devices, November 3-8, 2013, Hualien, Taiwan

Synthesis of carbon-based nanomaterials  
 Characterization and processing of carbon-based nanomaterials  
 Devices and Applications of carbon-based nanomaterials  
 Multiscale modeling and computation  
<http://www.engconfintl.org/13ap.html>

### 2013 AAPS Annual Meeting Short Course #2: Quality Control of Nano Particulate Drugs: Manufacturing, Characterization, and Regulatory Considerations, November 10, 2013, San Antonio, Texas, USA

Manufacturing Methods  
 Regulatory Perspectives  
 Physical/Chemical Stability  
 Standards Development  
[http://www.nxtbook.com/nxtbooks/aaps/annualmeeting2013\\_preprogram/#/114](http://www.nxtbook.com/nxtbooks/aaps/annualmeeting2013_preprogram/#/114)

### Nanomedicines: Addressing the Scientific and Regulatory Gap, November 21, 2013, New York, NY, USA

Regulatory Challenges  
 Characterization  
 Nanosimilars  
<http://www.nyas.org/Events/Detail.aspx?cid=21bd8d58-3e14-4748-8ef9-5d7626031635>

### NanoBIG: Nanotechnology in Healthcare, December 5-6, 2013, San Diego, CA, USA

Nanocomposites  
 Medical devices  
 Preventive healthcare applications  
<http://www.tcbi.org/files/brochures/nanoBIGSanDiegoInformation.pdf>

**BioNanoMed 2014, March 26-28, 2014,  
Krems, Austria**

Nanomedicines Innovation  
Diagnostics and Therapy  
Regenerative Medicine  
Imaging Technology  
Nano Safety

<http://www.bionanomed.at/index.php?id=26>

**Nanotechnology for Health Care Conference,  
April 2-4, 2014, Petit Jean Mountain,  
Arkansas, USA**

Disease Diagnostics  
Therapeutics  
Prevention

<http://arkansasnanohealth.com/>

**REFERENCE SECTION**

**Nanobio- and Nanomedicine  
Companies**

Listed alphabetically:

[http://www.nanowerk.com/nanotechnology/nanomaterial/nanobiomedicine\\_a.php](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](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](mailto:info@nanomedicines-alliance.org).

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