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National Nanomanufacturing Network Newsletter

Volume 5 Issue 2 - February 2012

Advanced Manufacturing - Providing the Foundation for Sustainable Economic Growth

Following up on recent announcements regarding the Advanced Manufacturing Partnership, and the Report to the President on Ensuring American Leadership in Advanced Manufacturing released last June by the Presidential Council of Advisors on Science and Technology (PCAST), this week the National Science and Technology Council (NSTC) has released a new National Strategic Plan for Advanced Manufacturing. The NSTC's assessment of trends in advanced manufacturing in the U.S. revealed key opportunities where federal policy could accelerate progress and economic impact, and challenges potentially impacting the sustainability of advanced manufacturing ecosystems. Developing a strategy in advanced manufacturing is essential for identification of key gaps within the U.S. innovation cycle, and for effectively directing federal investments in order to leverage emerging market opportunities within the global economy. Key issues include the gap between research and development (R&D) activities and the scaled commercialization through technical innovations in domestic production. As such, the strategic plan presents an innovation policy that would address these gaps, along with the full lifecycle of technology, from fundamental science, to product concept, to scaled manufacturing. The strategy further involves close engagement and partnering between industry, academia, and government at the national, state,

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Job Opportunities

Post-Doctoral Associate position in the societal aspects of NSE, CNS-ASU

Mechanical / Metrology Engineer, Microfabrica Inc.

Post-doctoral position "Nanoscale Patterning of Graphene", Center for Nanostructured Graphene

Doctoral Student Position in Nanoscience, Aalto University

Nanobiotechnology Group Leader, CIC nanoGUNE

Upcoming Events

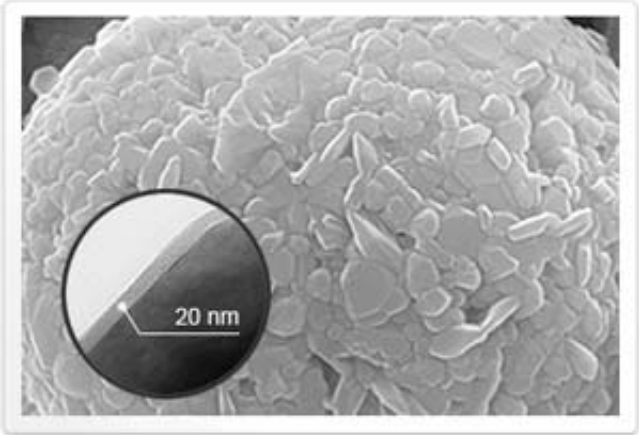
March 12-14, 2012
NANO-2012

and regional levels. Developed through a collaborative interagency process the plan notes the critical importance of advanced manufacturing on U.S. economic strength, global competitiveness, and national security. The strategic plan specifies five key inter-related objectives in which a large number of Federal agencies, coordinated through the NSTC, will have important roles to play in the implementation of the strategy.
More....

Regards,
National Nanomanufacturing Network

Learn More about the National Nanomanufacturing Network

Game Changing Battery Technology Promises Longer Range, Lower Cost Electric Vehicles



Commercial electric vehicles face significant challenges for adoption by the public and gaining market share due to the low energy density of automotive battery technologies. Even with considerable government investment for scale-up manufacturing of automotive battery technologies, energy density for production battery packs limits single charge driving range to less than 100 miles. Recently, Envia Systems, a technology leader in high-performance, low-cost lithium-ion energy storage solutions, announced test results that verify the company's next-generation rechargeable battery has achieved the highest recorded energy density of 400 Watt-hours/kilogram (Wh/kg) for a rechargeable lithium-ion cell. When commercialized, this 400 Wh/kg battery is expected to slash the price of a 300-mile range electric vehicle by cutting the cost of the battery pack by more than 50 percent.

March 26-27, 2012
Symposium on Assessing the Economic Impact of Nanotechnology

March 28-29, 2012
NanoManufacturing Conference & Exhibits

April 4-5, 2012
Nanotech Commercialization Conference

View Full Calendar

Upcoming Calls

Colloids and Nanomedicine 2012
Submissions accepted until March 16, 2012

SENN2012 - International Congress on Safety of Engineered Nanoparticles and Nanotechnologies
Submissions accepted until April 1, 2012

4th International Conference on Advanced Nano Materials
Submissions accepted until: June 15, 2012

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Recently Published
From Our Affiliates

Single-Molecule Enzyme Dynamics of Monomeric Sarcosine Oxidase in a Gold-Based Zero-Mode Waveguide
Applied Spectroscopy 66(2): 163-169

More....

NanoBusiness Interview: Andrew Maynard, Ph.D.

I have known Andrew Maynard for over 10 years. We have agreed and disagreed on various EHS issues concerning the Nanotechnology Community during our relationship. Even though we have disagreed from time to time I have always found his opinions valuable and thought provoking.

Andrew previously co-chaired the NNI's Nanotechnology Health and Environment Implications group while working at the National Institute for Occupational Safety and Health. He then became Chief Science Advisor to the Woodrow Wilson Center's Project on Emerging Nanotechnologies and a frequent spokesperson for PEN's EHS concerns. He has served on numerous government advisory councils in the U.S. and Canada, including the panels that developed the National Academies report on nanoEHS in 2009 and the draft NRC EHS Research Strategy I discussed in last week's newsletter.

Today's interview was written by one of the original Nanotechnology writers, Howard Lovy. The other contributor for today's interview is Phil Lippel, Ph.D., NanoBusiness Board Member. The opinions expressed by Andrew Maynard are his opinions and this interview is intended to continue our policy of providing all viewpoints in the Nanotechnology Community.
More...

Dr. Alan Rae Joins NanoMaterials Innovation Center as CEO

Biofilm conductivity is a decisive variable for high-current-density Geobacter sulfurreducens microbial fuel cells
Energy & Environmental Science 5(2): 5790-5797

Computational analysis of non-covalent polymer-protein interactions governing antibody orientation
Analytical and Bioanalytical Chemistry 402(4): 1731-1736

Supercapacitors Based on c-Type Cytochromes Using Conductive Nanostructured Networks of Living Bacteria
CHEMPHYSCHEM 13(2): 463-468

Biological oxidative damage by carbon nanotubes: Fingerprint or footprint?
Nanotoxicology 6(1): 61-76

Affiliated Centers

CHM Center for Hierarchical Manufacturing University of Massachusetts Amherst

Center for High-rate Nanomanufacturing

Center for Nanoscale Chemical-Electrical-Mechanical Manufacturing Systems

SINAM CENTER FOR SCALABLE AND INTEGRATED NANOMANUFACTURING

The NanoMaterials Innovation Center LLC (NMIC) in Alfred, NY welcomes Dr. Alan Rae as CEO. Dr. Rae has extensive experience in product commercialization and business development in Ceramics, Electronics and Alternative Energy.

Most recently, as founder of TPF Enterprises LLC he conducted SBIR and BAA funded research for the US Air Force and Army Corps of Engineers and consulted extensively on topics ranging from solar module construction and cell structure commercialization to graphene commercialization, novel circuit board materials, ceramic components and electronics waterproofing. He is a NYSERDA Entrepreneur in Residence and serves on their Directed Energy Committee. He is active in industry organizations including ANSI-TC229 (Nanotechnologies) and iNEMI where he serves as Director of Research.
More....

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