National Nanomanufacturing Network Newsletter

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The NNN Newsletter

Nanomanufacturing Summit 2011 Provides Focus on Commercialization, Manufacturing Innovations, and Emerging Research

The Nanomanufacturing Summit 2011, held this past week in Boston, provided some high level discussions with focus on, amongst other topics, nanotechnology commercialization, translational research emerging from academic research centers, and manufacturing innovations. In the first event wherein the NNN has teamed with the NanoBusiness Commercialization Association, key topics also included nanoEHS, Patents and Intellectual Property, Regulation, Nanomedicine, Green Manufacturing, and Commercialization strategies and successes. With a broad emphasis on the success of investments made by the Federal Government in the first 10 years of the National Nanotechnology Initiative (NNI), keynote speakers Sally Tinkle, Acting Director of the National Nanotechnology Coordination Office (NNCO), and Mihail Roco, Senior Advisor for Nanotechnology at the National Science Foundation (NSF), provided information regarding the formation of strategic plans within the NNI, including the recently published EHS strategy, which was developed through a series of workshops and public comment. Reiterating the increased emphasis on effective technology transfer from fundamental research to product commercialization, and nanomanufacturing, the growing trends impacting future economic development and job creations were also cited, with estimates that nanotechnology commercialization will create 6 million jobs by 2015, with 2 million of these located inside the U.S. More....

Job Opportunities

Senior/Staff Nanotechnology Process Integration Engineer

Upcoming Events

Oct 1, 2011
ISMI Symposium of Manufacturing Effectiveness

Oct 2-5, 2011
WAVE 2011 Conference

Oct 5-6, 2011
10th International Symposium on Scanning Probe Microscopy & Optical Tweezers in Life Sciences

Oct 16-20, 2011
Material Science & Technology Conference and Exhibition 2011

Oct 17-18, 2011
Nanoparticle Metrics and Exposure: From Exposure to

Regards,
Jeff Morse, Managing Director,
National Nanomanufacturing Network

Learn More about the National Nanomanufacturing Network

UMass Amherst Nanotechnology Center Receives $20 Million Renewal of Federal Grant to Boost Advanced Manufacturing, Economic Growth

AMHERST, Mass. — The University of Massachusetts Amherst has received a five-year, $20 million grant from the National Science Foundation (NSF) to support a national research center on nanomanufacturing. The grant will fund the university's Center for Hierarchical Manufacturing (CHM).

A signature CHM effort is focused on roll-to-roll nanoscale processing of flexible electronics and high technology devices such as solar cells, cell phone displays, batteries and sensors. Roll-to-roll processing is similar to how photographic film moves through a camera from one spindle to another or how newspapers are printed, but with chemical and physical processing in between.More....

SRC and National Science Foundation Award $20 Million to Fund U.S. University Research on Nanoelectronics for 2020 and Beyond

Effects

View Full Calendar

Upcoming Calls

SPIE Defense, Security, and Sensing 2012
Submissions until October 10

MRS Spring Meeting 2012
- submissions accepted until: November 1, 2011

SPIE Photonics Europe 2012
Submissions until November 7

View All Calls

Recently Published
From Our Affiliates

Hydrogen Bond Assisted Assembly of Well-Ordered Polyhedral Oligomeric Silsesquioxane-Block Copolymer Composites
Macromolecules 44(17):6793-6799

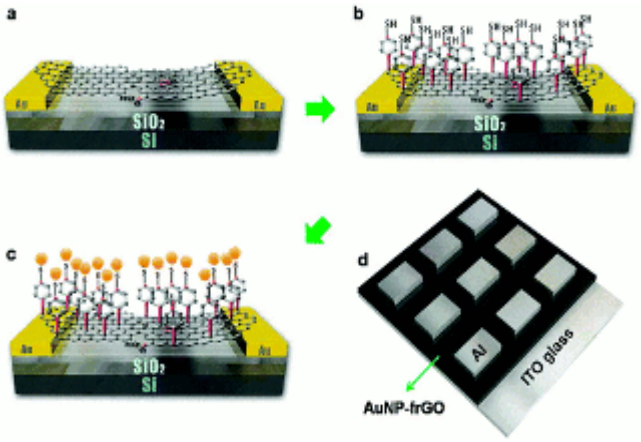
Mechanistic Analysis of Gas Enrichment in Gas-Water Mixtures near Extended Surfaces
Journal of Physical Chemistry 115(35):17495-17502

Nano Meets Biology: Structure and Function at the Nanoparticle Interface
Langmuir 27(17):10376-10385

RESEARCH TRIANGLE PARK, N.C. - Semiconductor Research Corporation (SRC), the world's leading university-research consortium for semiconductors and related technologies, joined today with the National Science Foundation (NSF) to fund $20 million for 12 four-year grants on nanoelectronics research.

These 12 interdisciplinary research teams at 24 participating U.S. universities will contribute to the goal of discovering a new switching mechanism using nanoelectronic innovations as a replacement for today's transistor'the foundational building block of computing technology that has driven not only the semiconductor industry, but the country's IT-driven economy for decades. More...

Stabilized Nanostructure Composites for Nonvolatile Memory Device Applications



New approaches to nonvolatile memory devices have previously been demonstrated by charge trapping on metallic nanoparticles (NPs) embedded in organic layers. Devices based on this concept have shown that the memory capability of the device is affected by the distribution of the NPs. In the case of gold nanoparticles (AuNPs) that are frequently embedded in the organic layer or on the surface, the migration of the AuNPs during operation results in limited stability and device lifetime. Furthermore, the origin of the AuNP

Molecular absorption and photodesorption in pristine and functionalized large-area graphene layers Nanotechnology 22(35)

Tunable metallic-like conductivity in microbial nanowire networks Nature Nanotechnology 6(9):573-579

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

Center for Integrated Nanotechnologies
CINT
Sandia
Los Alamos

NEL
innovation & productivity

charging effects is not completely understood. One scheme to better stabilize the AuNPs while further ensuring effective charging conductive paths and simultaneously providing a barrier to discharging is the use immobilized AuNPs on semiconducting reduced graphene oxide (rGO) nanosheets. More....

Read more on InterNano

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