National Nanomanufacturing Network Newsletter

Volume 3 Issue 4 - April 2010

The NNN Newsletter

PCAST Recommendations Set the Stage for a National Nanomanufacturing Roadmap for the Next Decade

The recent Report to the President and Congress on the Third Assessment of the National Nanotechnology Initiative (NNI) included several key recommendations that will lay the groundwork for establishing a National Nanomanufacturing Roadmap. Under executive order, the Presidential Council of Advisors on Science and Technology (PCAST) provided a report assessing the first decade of the NNI and making broad-based recommendations for the next decade. The recommendations are based on the analysis conducted by the 2010 NNI Working Group consisting of three PCAST members, and included twelve nongovernment experts in nanotechnology.

The assessment was augmented by discussions with government officials, industry leaders, and technical experts from a wide range of fields impacted by nanotechnology. Most notable in this report was the recognition of the effectiveness and benefits of the Federal Governments' investment in fundamental nanoscale science and technology research, positioning the U.S. as the global leader in nanotechnology R&D. In this capacity, the NNI has distinguished itself over its first decade as a successful, cooperative organization involving the participation of 25 Federal agencies. For the next decade, the recommendations by the panel target steps that can be enacted to further exploit the investment and opportunities enabled by nanoscience R&D, with an increased focus on commercialization. In the area of program management, the panels' recommendations were to bolster the resources of the National Nanotechnology Coordination Office (NNCO) to enhance management of the NNI in several areas including increased communications with industry, facilitating technology transfer, providing informatics to the public and private sectors, establishing collaborative programs with stakeholders in the areas metrology, nanomaterials standards and properties databases, manufacturing safety, and leveraging of state and regional initiatives. In combination with these areas, additional tracking of economic and societal impacts will

Upcoming Events

May 3 - 6, 2010
Nanotechnology for Defense

May 7 - 8, 2010
Global Regulation of Nanotechnologies

May 10 - 12, 2010
SEMATECH Litho Forum

May 16 - 17, 2010
Nano Cement, Steel & Construction

May 25 - 27, 2010
EASTEC 2010 Exposition

View Full Calendar

Upcoming Calls

ASAP!
Tribology & Design
Deadline to submit abstracts

May 1, 2010
ICMMT
Deadline to submit papers.

May 4, 2010
Greener Nano 2010
Deadline to submit poster abstracts

May 15, 2010
Nanofluids: Fundamentals and

provide relevant metrics in order to measure the outcomes of the NNI investment, including measures of the value of nanotechnology enabled products, job creation, and social rate of return.

More...

Regards,
Jeff Morse, Managing Director,
National Nanomanufacturing Network

Learn More about the National Nanomanufacturing Network

University of California, San Francisco Publishes Draft Nanotechnology Regulatory Policy Recommendations

The Program on Reproductive Health and the Environment (PRHE) at the University of California, San Francisco (UCSF) is part of the Department of Obstetrics, Gynecology & Reproductive Services located in UCSF's School of Medicine. PRHE recently published its draft "A Nanotechnology Policy Framework: Policy Recommendations for Addressing Potential Health Risks from Nanomaterials in California." For those who might wonder about PRHE's focus, its "mission is to create a healthier environment for human reproduction and development through advancing scientific inquiry, clinical care and health policies that prevent exposures to harmful chemicals in our environment." While its draft nanotechnology policy framework briefly touches upon reproductive issues, it provides a more general approach to what its authors see as difficulties presented by the potential regulation of nanotechnology (or lack thereof) in California. More...

New England Nanomanufacturing Summit 2010: June 22 - 24

The Northeast Nanomanufacturing Summit 2010 is a showcase for high-quality technical contributions by scientists, experts, and businesses in the field of nanomanufacturing. The event will include topical papers on emerging technologies, applications, and fundamental research for academic institutions and industries in the Northeast, along with national and international contributions. Abstracts for papers are being solicited for key focus areas and topics having an emphasis on nanomanufacturing approaches, applications, and research challenges. The event will

Applications
Deadline to submit poster abstracts

May 18, 2010
International Conference on Green Remediation
Deadline to submit poster abstracts

June 28, 2010
SPIE Nanoscience + Engineering
Deadline for manuscripts.

Recently Published

From Our Affiliates

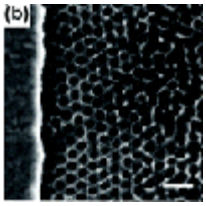
Quantitative Interfacial Energy Measurements of Adhesion-Promoted Thin Copper Films by Supercritical Fluid Depositon on Barrier Layers
Journal of Engineering Materials and Technology 132(2): 021014

Effect of Incident Light Power on Schottky Barriers and I-V Characteristics of Organic Bulk Heterojunction Photodiodes
Applied Physics Letters 96(14): 143301

Enzyme-Amplified Array Sensing of Proteins in Solution and in Biofluids
Journal of the American Chemical Society 132(14): 5285-5289

provide a focus on research, development, and transition to commercialization for academic institutions and industries in the Northeast. More....

Scalable Synthesis of Semiconducting Nanopatterned Graphene Materials



Graphene has received significant scientific attention in recent years due to its unique electronic, thermal, and mechanical properties, notably its potentially large electron mobility (>200,000 cm^2/V-sec). Areas of technological interest for graphene include future high performance electronics, sensors, transparent conductors, and flexible electronics. However, despite graphene's potentially superior electronic transport properties, the material suffers from the lack of a technologically significant electronic bandgap, thereby limiting the ability to modulate the conductance of graphene-based devices by field or doping effects. Kim and colleagues report on a method, using block copolymer (BCP) lithography, for achieving both the critical dimensions and scalability necessary for developing a semiconductor integration strategy for graphene-based devices. The relative ease by which BCP lithography can be implemented and scaled to large areas makes this a practical approach to large-area, commercializable applications for graphene-based electronics. More....

Read more on InterNano

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

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