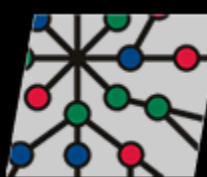


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# National Nanomanufacturing Network

## Newsletter

Volume 1 Issue 2 - October 2008

### The NNN Newsletter



#### Nanomanufacturing Summit 2009

The nanomanufacturing community is represented by multidisciplinary scientists and researchers who face key challenges in bringing advanced and emerging nanotechnology-enabled processes to the forefront of next-generation

product manufacturing. In order to realize both the economic and societal benefits offered by integrated nanomanufacturing systems, critical collaborations and information exchange must be fostered within this community and the transformation of information into roadmaps, initiatives, and directives to policymakers, investors, and educators must take place.

With this in mind, the National Nanomanufacturing Network (NNN) is organizing and sponsoring a major conference next year - The Nanomanufacturing Summit 2009 - to be held in Boston on May 26-29. The goal of the Summit is to bring together high-quality technical contributions by experts in the field of nanomanufacturing, as well as from the broader nanomanufacturing community. A second goal is to highlight those topics that stand out from the general nanotechnology and nanoscience discourse with an emphasis on nanomanufacturing approaches, research, and challenges.

Topics for the conference will include:

### Upcoming Events

October 19-24, 2008

[AVS 55th International Symposium and Exhibition](#)

October 27, 2008

[Nano Bio Clean Tech 5th International Congress](#)

November 3-5, 2008

[Nanomanufacturing & Dual Use Commercialization Conference](#)

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- Integrated Nanomanufacturing Processes
- Metrology, Analytical Tools and Standards for Nanomanufacturing
- Green Nanomanufacturing
- Environmental Health and Safety in Nanomanufacturing
- Emerging Technologies, including Tip-based Nanomanufacturing, Directed self assembly, 3-D Self assembly, Multiscale Integration, Nano-Imprint Lithography, Plasmonic Patterning Techniques in Nanomanufacturing, Process control/feedback, and Value Chain Management in Nanomanufacturing
- Industry Sector Topics, including Materials, Energy, Forest Products, Chemicals, Automotive, Medical, Pharmaceutical, Sensors, Separations, and Semiconductors

We look forward to your participation in this timely meeting and to networking with the exciting nanomanufacturing community next Spring in Boston. Further details will be provided in the coming weeks regarding invited and keynote speakers, venue, and program.

Regards,  
 Jeff Morse, Managing Director,  
 National Nanomanufacturing Network

[Learn more about the NNN...](#)

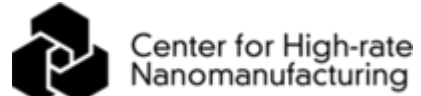
## Nanofabrication



## User Facilities

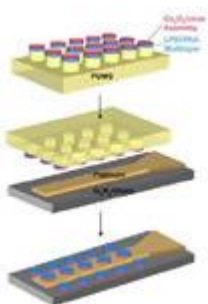
Research and commercialization of nanoscale technologies typically requires access to sophisticated fabrication and characterization equipment that is very expensive to acquire, operate and maintain. Such resources are normally beyond the reach of individual research laboratories and all but the largest companies. It is

## Affiliated Centers



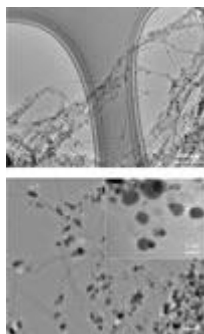
therefore a critical issue for progress in research, development, and commercialization of nanotechnology that shared facilities be operated according to business models which are consistently high in availability and technical performance, responsive to clients' needs, and financially sustainable. [More...](#)

## **Novel Nanostructured Microbattery Fabrication**



In order to enable the production of high performance microbatteries, researchers from the Massachusetts Institute of Technology have developed a new procedure to fabricate and position small battery components with nanostructured materials. Their technique involves the combination of several advanced technologies, including genetically engineered viruses, layer by layer assembly, biological self-assembly and templating, and microcontact printing. [More...](#)

## **Nanomanufacturing for Fuel Cells: A Review**



A recent paper reports the performance of polymer electrolyte membrane (PEM) fuel cell membrane electrode assemblies (MEAs) synthesized using layer-by-layer electrostatic self-

assembly techniques that improve Pt utilization by approximately a factor of 4 in comparison to conventional MEA fabrication methods. [More...](#)

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