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**National
Nanomanufacturing
Network**

Newsletter

Volume 1 Issue 1 - September 2008

The NNN Newsletter



Welcome colleagues and experts in the nanomanufacturing (NM) communities to this inaugural issue of the NNN Newsletter.

The National Nanomanufacturing Network (NNN) is a NSF sponsored organization facilitating the transition of nanoscience breakthroughs in the laboratory to scaled manufacturing of nanotechnology enabled products. In order to address the challenges associated with these transitions, our goal is to bring together communities of practice within specific technology sectors in order to provide timely information exchange, establishment of best practices, develop NM roadmaps, and predict the necessary

Upcoming Events

September 16, 2008

[NanoRegulation
Conference 2008](#)

September 23, 2008

[Nanotech Northern
Europe 2008](#)

September 25, 2008

[Manufacturing and
Reliability Challenges
for 3D ICs](#)

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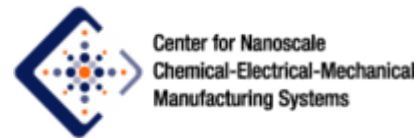


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directions for educational and workforce training for future industries. This newsletter enables the outreach of the NNN to the NM community at large, providing timely information in the form of expert reviews, news headlines, press releases, interviews, and schedules of events and opportunities having a specific focus on NM.

As managing director of the NNN, I look forward to engaging the community as a whole to bring technical innovations in nanosciences to viable products impacting society in various ways. The exciting breakthroughs offered by nanotechnology are now just beginning to reach the marketplace, and the future promises to impact virtually all facets of our society. I invite you to participate with us in this endeavor, providing us with ideas for topical reviews, articles, and breaking news in areas important to you, along with feedback as to how we can better serve your specific needs and interests. I look forward to working with you in the future.

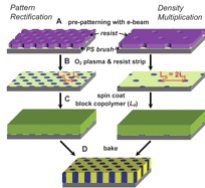
Centers



Regards,
Jeff Morse, Managing Director,
National Nanomanufacturing Network

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

The Frontline of Nanomanufacturing



As present
approaches to reduce

the length scales associated with electronic and memory devices encounter intrinsic economical and technological limits via optical lithography, new approaches to forming nanoscale patterns exhibiting long-range order are receiving significant attention. While self-assembly techniques exploiting the properties of block copolymers result in pattern formations on the order of the

length scale of the constituent blocks (~3-50 nm), achieving long-range nanoscopic order over macroscopic dimensions has been elusive, along with high defect densities present in the patterns that further limit the applications for which these approaches are useful. [More...](#)

Novel Nanopositioning Device with Increased Degrees of Freedom



The ability to manipulate and characterize materials on the nanoscale is important to the development of a number of nanotechnologies. Nanopositioning devices are able to move objects through small distances with

nanoscale resolution, and are available commercially either as stand-alone devices or as integrated structures in other instrumentation such as atomic force microscopes. [More...](#)

An Interview with Vince Rotello



While research into the properties of various nanostructured

materials has received a good deal of press for many years now, recent research focuses on the controlled manipulation of these nanostructures. Vincent Rotello, Charles A. Gossemann Professor of Chemistry at the University of Massachusetts Amherst, is making a significant contribution to this body of knowledge. [More...](#)

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