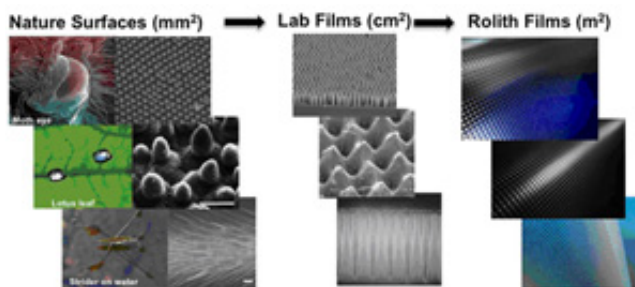


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Volume 5 Issue 12 - December 2012

## Case Studies in Nanomanufacturing Commercialization Through Effective Partnerships and Technology Transfer: Rolith Corporation



With the increased emphasis towards nanomanufacturing and commercialization of nanotechnology-enabled products, one key challenge is enhancing the innovation cycle. Through the innovation cycle, fundamental discoveries in the nanosciences are translated to applications and product scale-up. As many start-up or small company innovators are resource limited, the strategy of establishing strong partnerships with academic institutions and researchers provides a very effective path to extended R&D activities. Such partnerships typically lead to intellectual property, licensing, and technology transfer that enhance the cultures of academic researchers and small businesses alike, both in providing new perspectives for each into the innovation cycle, as well as accelerating the time and path to commercialization. A recent prime example of this scenario combines innovations emerging from collaborations between an academic institution and a small business start-up. [More....](#)

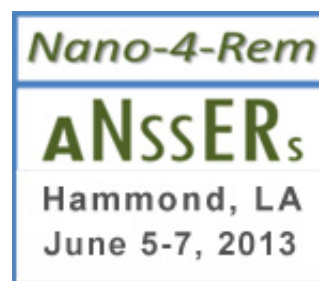
Regards,  
 Jeff Morse, Managing Director,  
 National Nanomanufacturing Network

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Happy Holidays from the NNN!  
 See you next year!

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January 2-4, 2013  
[IEEE INEC 2013](#)

January 29-February 1, 2013  
[2013 Flex Conference](#)

January 30-February 1, 2013  
[nano tech 2013](#)

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## Featured Video

## The View From the Nano Trenches



As 2012 draws to a close, and 2013 begins, I thought I would share a personal, "from the trenches" perspective on the nano business.

The business climate continues to be challenging. The bankruptcies of A123 and Global Solar Germany

highlight the difficulties of moving new businesses to larger scale, whether or not they are nano-related. Market and financial conditions as well as management missteps are no indicator of a promising or valuable technology. Scaling up to serve large markets in competition with powerful incumbents is a high-risk activity for any business. New energy is still a key growth area for nano applications but the economic problems worldwide are choking off many opportunities at the growth stage.

[More...](#)

## Santa, Bring Me Nanotech

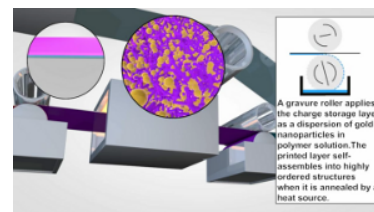


They say good things come in small packages, so what could make a better holiday gift than nanotechnology? In the spirit of the season, let's make our gift list -- and wish list -- from the smallest of the small.

- **Shaving three strokes from your golf game.**

Carbon composite golf clubs promise less weight, more strength and flexibility. They can add up to a more powerful, more accurate drive. Fore!

- **Breathing easier.** Nanofibers and nonwovens are being used in air filtration of all kinds -- from filtering fine particulates from



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Non-Invasive High-Throughput Metrology of Functionalized Graphene Sheets  
[Advanced Functional Materials 22\(21\): 4519-4525](#)

Three-dimensional thermal analysis of wirelessly powered light-emitting systems  
[Proceedings of the Royal Society A - Mathematical Physical and Engineering Sciences 468\(2148\): 4088-4097](#)

Development of antimicrobial stainless steel via surface modification with N-halamines:

workers' air in industrial plants to building HVAC systems to personal purifiers that go everywhere with you.

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## Nanotechnology in the Cement Industry - A Patent Analysis



Cement is one of the most widely used materials in construction industry. In 2011, the expected total worldwide production of cement was 3,400 million tonnes. China is the largest producer accounting for 2 billion tonnes in production with India in second position (210 million tonnes) followed by the USA (68 million tonnes). Despite being widely used, cement-based materials have poor mechanical properties and are highly permeable to water and other aggressive chemicals, which reduces their durability. Moreover, the cement industry is one of the significant sources of CO<sub>2</sub> emissions, which accounts for 5-6% of global man-made CO<sub>2</sub> emission annually. However, the increasing demand for high performance structural materials and components has led to the rapid development of new classes of materials.

[More....](#)

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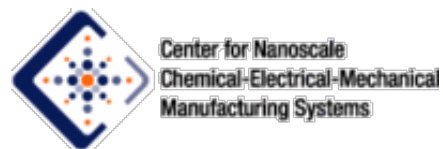
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