



For more information, CONTACT:

Sally DiDomenico, BASIC: (415) 981-7117

## **Nanotechnology Can Have a Big Future in the Bay Area**

*Bay Area Science and Innovation Consortium's report promotes regional collaboration*

BERKELEY, Calif. (Jan. 30, 2004) -- The San Francisco Bay Area is an internationally recognized hotbed of nanotechnology, but it must not relax or rest on its laurels if this science of the ultra-small is to provide big future economic benefits to the region.

This is the main message of a 36-page report on nanotechnology in the Bay Area released today by the Bay Area Science and Innovation Consortium (BASIC). The report – “Nanotechnology in the San Francisco Bay Area: Dawn of a New Age” – is being unveiled at today’s groundbreaking for the Molecular Foundry, a \$85 million user facility at Lawrence Berkeley National Laboratory funded by the U.S. Department of Energy to provide researchers the tools needed to make new molecules and nano-sized objects.

“For many decades, the fertile confluence of inventors, scientists and entrepreneurs – like that which will occur at the Molecular Foundry – has helped make the Bay Area one of the world’s most vibrant and successful regions,” said Dr. Robert J.T. Morris, director of IBM’s Almaden Research Center in San Jose, and Chairman of BASIC. “The National Science Foundation has predicted that nanotechnology will be generating a trillion dollars worth of commercial products by 2015. If the Bay Area is to generate our share of this business, we must continue to nurture and support the scientists and innovators who will be creating it.”

This report is the first in a series BASIC will be producing to give the public and local decision makers a greater understanding of local research into new technologies that if nurtured have the potential to enhance greatly the Bay Area’s economy, vitality and international image.

“Nanotechnology in the San Francisco Bay Area: Dawn of a New Age” explains the basics of nanotechnology – research and devices that operate on the scale of nanometers, or billionths of meters. (A nanometer is about the length of three to five atoms lined up in a row.) It also highlights the broad range of nanotechnology research and results by BASIC members, which include the leading public and private research labs and universities in the region.

Among the Bay Area nanotech achievements described in the BASIC report are:

- Researchers at IBM’s Almaden Research Center in San Jose were first to position individual atoms one at a time (1989) and created the first mass-produced nanotech product (1997: the giant magnetoresistive sensor that enabled computer hard-disk drives to increase data density more than 15-fold over the past five years).
- In support of their mission to create a safe space-travel environment for astronauts, NASA-Ames scientists are developing a wide range of biomedical nanotechnologies that also have more general application, such as nanotube sensors for analyzing DNA sequences for cancer or biological threats and nanotube “vision chips” to restore vision impaired by macular degeneration.
- Berkeley Lab and University of California-Berkeley scientists were first to make nanotubes of exotic semiconductor materials, which they used to create arrays of the smallest lasers ever made – nanowire nanolasers – which could mimic biological functions in future labs-on-a-chip.
- Researchers from SRI International and NanoGram Corp. have teamed up to make ultra-small nanocrystal coating materials expected to enhance the function of phosphors, catalysts and ceramics.
- University of California-Davis researchers are developing innovative nanotechnologies to identify, degrade and/or destroy environmentally toxic materials.

BASIC is also sponsoring a forum today at Berkeley Lab for local officials and the public, where local experts will discuss the many avenues by which nanotechnology can impact the future vitality of the Bay Area.

The report “Nanotechnology in the San Francisco Bay Area: Dawn of a New Age” can be viewed online at: [http://www.bayeconfor.org/basic/rep/rep\\_top.html](http://www.bayeconfor.org/basic/rep/rep_top.html)

BASIC is an action-oriented collaboration of the San Francisco Bay Area’s major research universities, national laboratories, independent research institutions and research-and-development-driven businesses and organizations dedicated to:

- Developing innovative collaborative programs that take advantage of the unique capabilities at Bay Area R&D institutions to provide solutions for critical national and regional challenges
- Advocating for the Bay Area at the regional, state and federal levels for economic, policy and business issues and opportunities impacting research and development
- Demonstrating the critical linkage between the Bay Area’s infrastructure and its economic vitality.