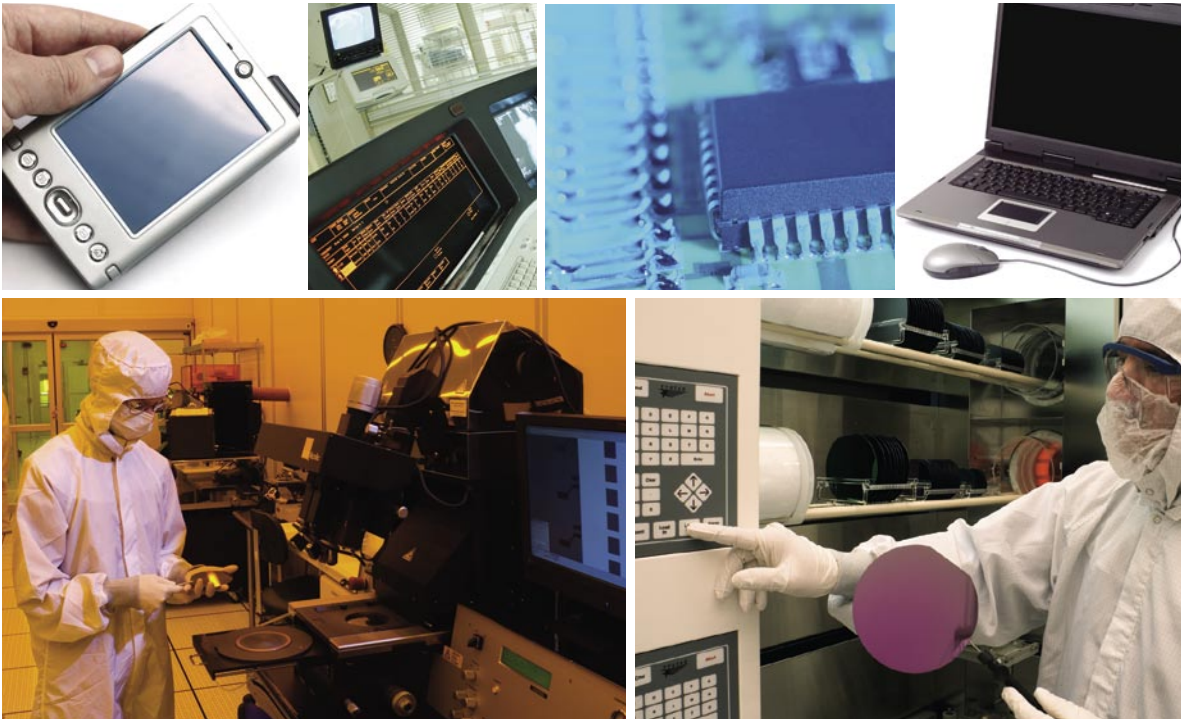




Nanotechnology Research Benefits from Collaboration



NIST's Nanofabrication Facility © Robert Rathe

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A memorandum of understanding (MOU) between NASA and the National Institute of Standards and Technology (NIST) will enable collaboration between NASA Goddard Space Flight Center and NIST researchers to further advances in nanotechnology. The agreement is also expected to save taxpayer money by enabling NASA scientists to use NIST's new \$235 million Advanced Measurement Laboratory and its state-of-the-art tools for making, testing, and characterizing prototype nanoscale devices and materials, thereby eliminating the need to duplicate facilities.

www.nasa.gov

Benefits of Technology Transfer

- Goddard and NIST will collaborate on advanced nanotechnology research, helping lead to further advancements in both organizations' missions.
- Goddard will have access to NIST's \$235 million state-of-the-art nanotechnology research facilities, saving taxpayer money and reducing duplicate efforts.
- Through the collaborative research, advances in chemical sensors, biosensors, electronic devices and circuits, and architectures for electronics, health care, and other fields are possible.

tech transfer success

On the Record

“By having access to these state-of-the-art facilities and capabilities at NIST, Goddard can focus its resources on the validation of these miniaturized technologies to accelerate their maturity for space flight applications supporting scientific research and NASA’s vision for space exploration.”

– Peter Hughes, Chief Technologist, NASA Goddard Space Flight Center

“This nanotechnology-focused agreement leverages the specialized resources and expertise of our organizations in an especially critical emerging technology. We have a lot to learn and gain from each other. We are optimistic that the technical outputs of this newly formalized partnership will benefit businesses—in the region and nationwide—as they pursue products and processes that exploit nanoscale properties and phenomena.” – Mike Postek, Assistant to the Director for Nanotechnology, NIST

About NIST

Founded in 1901, NIST is a government research organization that collaborates with industry and other government organizations to promote innovation. Part of the U.S. Commerce Department’s Technology Administration, NIST’s mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

Technology Origins

Nanotechnology focuses on the creation of useful or functional materials, structures, or devices in the nanometer length scale (thousands of times smaller than the average human hair). Goddard researchers have already made strides in nanotechnology research, both within their own organization and through collaboration with scientists at NASA Ames Research Center. For example, they have developed an innovative method of manufacturing carbon nanotubes that is much cheaper and yields more tubes of higher quality than typical processes. Such advancements are applicable to NASA’s space missions as well as to the development of improved materials for chemical sensors, biosensors, electronic devices and circuits, and architectures for use in everything from computers and electronics to advanced health care.

The Transfer Process

Representatives from NIST and Goddard’s OTT met at an annual nanotechnology conference sponsored with *NASA Tech Briefs* magazine. Discussions about possible collaborations took place and led to Goddard assigning a primary technical point of contact to spearhead further talks. Through ongoing discussions between assigned points of contact at NIST and Goddard, a formal collaborative agreement was administered by the OTT and signed in January 2006.

Looking Ahead

Through this new collaborative agreement, researchers from Goddard and NIST will be able to work together using joint expertise and NIST’s state-of-the-art nanotechnology fabrication facilities to further their individual and joint research goals. The agreement calls for the two organizations together to define and manage research projects in nanoscience and microelectromechanical systems (MEMS) device design, technologies, operational protocols, fabrication technologies, and device metrology for use in chemical and biological detectors, power generation, thermal management systems, radio frequency electronics, electro-optic devices, and distributed sensor networks.

For More Information

If you would like additional information about Goddard’s technology transfer opportunities, please contact:

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