



## Suspended in Space: Research On Particles

(NAPSA)—Research now being conducted in space may one day result in a better paint coverage for your house, faster-acting medicines, computers that can accomplish more and milk that doesn't separate.

Research taking place aboard the International Space Station has discovered a new approach for suspending fine particles in fluids. Such collections of particles, called colloids or colloidal suspension, may help researchers better understand how to manipulate small particle assemblies found in fluids such as water and organic solvents.

This can prevent the particles in fluids from organizing themselves or coagulating into a disordered gel-like structure.

Paint is an example of a fluid that contains suspended colloidal particles. If such particles become unstable, they clump together causing paint to thicken substantially.

"The International Space Station allows the research to happen in a microgravity environment which permits us to make delicate structures that would otherwise (on earth) fall to the bottom of the beaker, as they would not support their own weight," said David Weitz, professor of applied physics at Harvard and principal investigator in NASA's Experiment of Physics of Colloids in Space.

By tailoring the interactions between the particles, the researchers are able to engineer the desired degree of colloidal stability into the mixture.



**Being able to research in a microgravity environment is helping scientists to discover new potential product applications.**

That means scientists will be able to create designer colloidal fluids, gels and even crystals. This designer capability will assist in developing improved materials such as photonics.

Photonics are materials that control the flow of light and may be used in optical communications.

The experiment is operated remotely from the NASA Glenn Research Center's Telescience Support Center in Cleveland, Ohio and at a site in Harvard University.

Data is downlinked at the conclusion of the day's operations and when the experiment is complete, test samples will be transferred to the Space Shuttle for the return trip to earth. For more information on research topics and progress on the International Space Station, visit NASA's Web site at <http://spaceflight.nasa.gov>.