in April 2007 two NASA Kennedy Space Center employees were inducted into the space technology Hall of Fame for their award-winning work in developing a substance for cleaning up water and soils contaminated by chlorinated solvents the inductees Dr. Jacqueline Quinn a NASA environmental engineer and Kathleen Brooks a NASA analytical chemist invented an emulsion called emulsified zero valent iron ore EZVI to eliminate ground pollutants for many years chlorinated solvents have been used to clean rocket engine parts and
other equipment by the Department of Energy, Department of Defense, NASA, and private industry facilities around the country at the time the solvents called dense non-aqueous phase liquids or diene apples for short were considered safe when the solvents were disposed of because they are heavier than water they sank into the ground later it was discovered the solvents could become harmful especially to the aquifer which is often a source of drinking water dean apples and groundwater were difficult to remove and the process was cumbersome
and costly turning to nanotechnology for an answer Quinn and Brooks teamed with researchers at the University of Central Florida to conduct the first phase of research and development of ezvi the team developed a thick substance containing a mixture of iron particles water and vegetable oil the oil worked like a magnet helping to attract contaminants while the nanoparticles broke down the din apple into harmless components that could be consumed by microbes in the soil any vegetable oil left in the groundwater would be
absorbed by naturally occurring bacteria

in the surrounding soil depending on the size of the contaminated site it might take just a few weeks before the groundwater is completely clean but ezvi is one of only a few methods available to treat the DiNapoli their source and the product is safe for the environment the ezvi team was granted yet another patent for use on metal contamination making their innovative technology even more globally applicable the Hall of Fame honors those who transform technology originally developed to support space exploration
initiatives into products that help improve the quality of life on earth anyone interested in more information should contact NASA Kennedy Space Center's innovative partnerships program office at area code three two one eight six seven five zero three three