

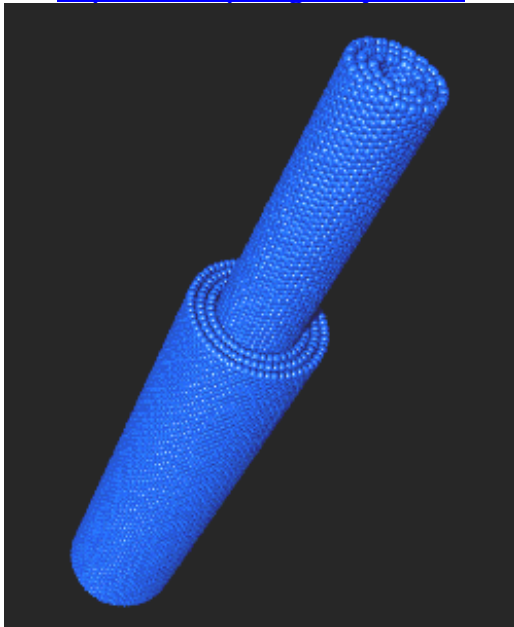
Foresight Background Information

Nanotechnology Stakeholders Meeting
Senate Committee on Environment and Public Works
Washington, DC 6 April 2006

Recent Progress

Structures for Molecular Machines

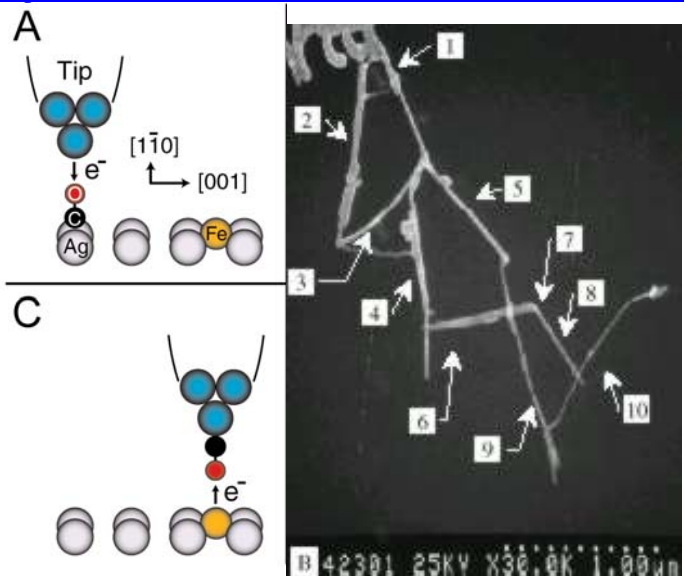
<http://focus.aps.org/story/v9/st4>



Positional Molecular Assembly and Nanotube Welding

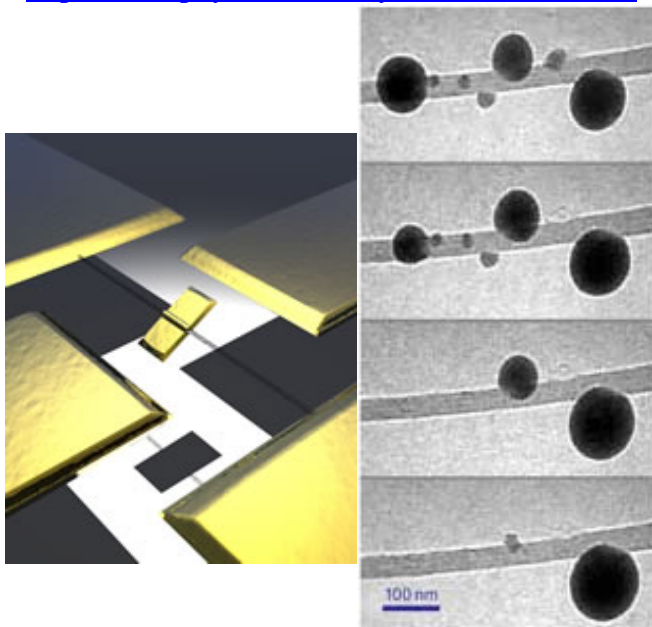
<http://alglobus.net/NASAwork/papers/NanoSpace1999/paper.html>

<http://www.news.cornell.edu/releases/Nov99/molecules.ws.html>



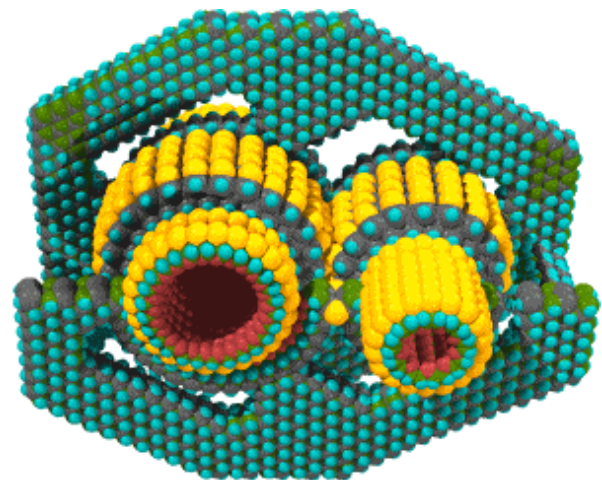
Moving devices controlled from desktop

<http://www.physics.berkeley.edu/research/zettl/>



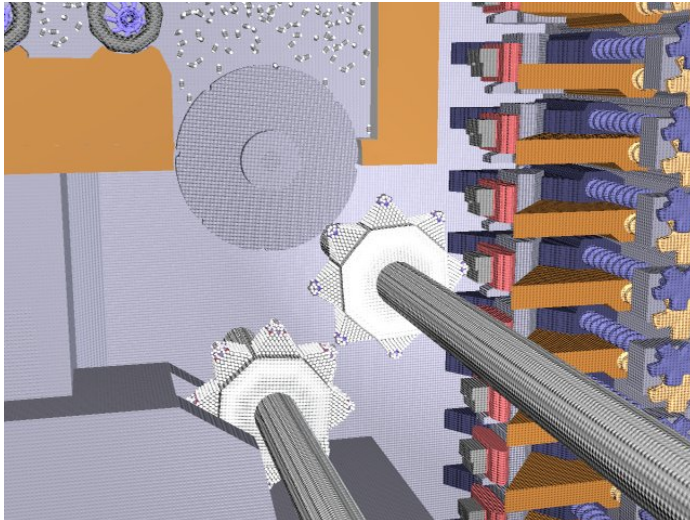
Software to design molecular machines

<http://www.nanoengineer-1.com/>

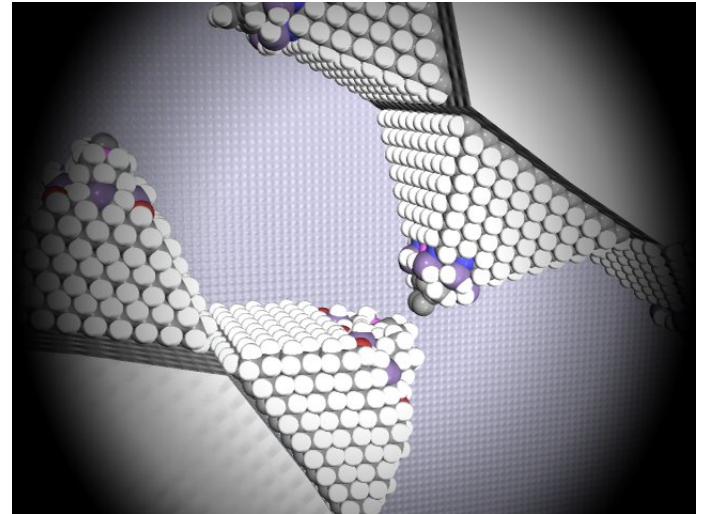


Productive Nanosystems will transport, position, and react molecules to make inexpensive, atomically precise products of all sizes, from the tiniest molecular gears to large spaceships.

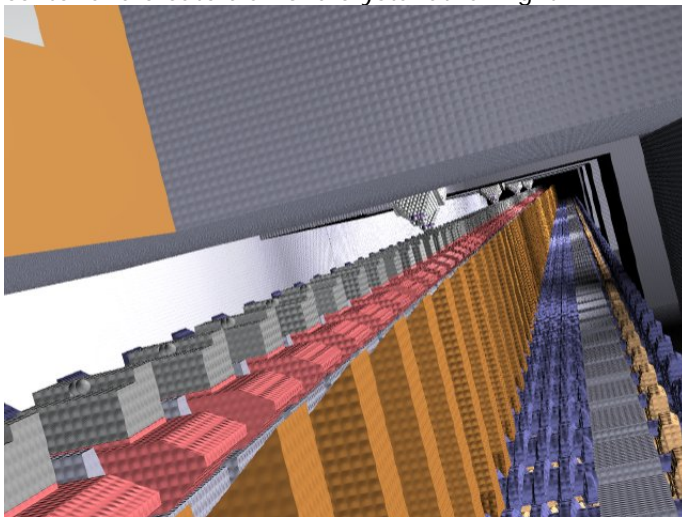
http://www.nanoengineer-1.com/mambo/index.php?option=com_wrapper&Itemid=55



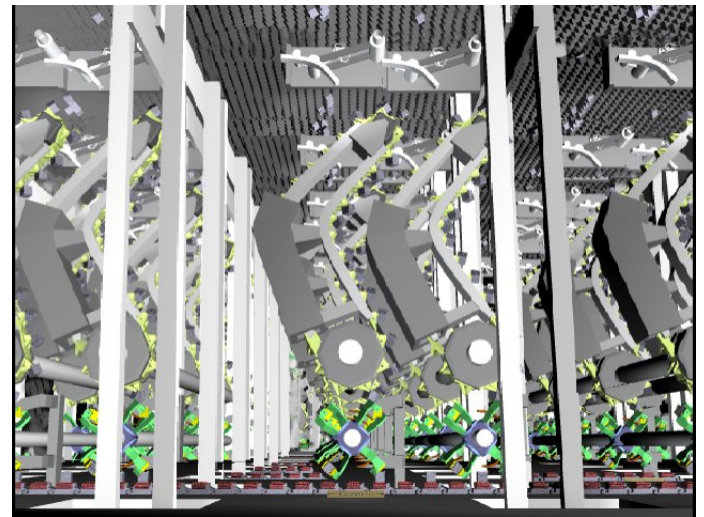
The smallest level of nano machines separate molecules of acetylene in the upper left, remove hydrogen in the center and create diamond crystal at far right.



The twin sites on the tool grab the two hydrogens and carry them away to a conversion station that creates water from the excess hydrogen.



The belt carries the cubes past more machines slightly offset from the previous machine. This builds up an entire row of carbon on the cube.



This is the extruder stage that takes in the large cubes seen at the bottom and applies them to the surface at the top which is the actual product.