

# Nanor obot ics

http://www.wikipedia.org/

Nanorobotics is the technology of creating machines or robots at or close to the scale of a nanometer (10-9 metres). More specifically, nanorobotics refers to the still largely theoretical nanotechnology engineering discipline of designing and building nanorobots. Nanorobots are typically devices ranging in size from 0.1-10 micrometres and constructed of nanoscale or molecular components. As no nanorobots have so far been created, they remain a hypothetical concept at this time.

Another definition sometimes used is a robot which allows precision interactions with nanoscale objects, or can manipulate with nanoscale resolution. Following this definition even a large apparatus such as an <u>Atomic force</u> <u>microscope</u> can be considered a nanorobotic instrument when configured to perform nanomanipulation. Also, macroscale robots or microrobots which can move with nanoscale precision can also be considered nanorobots. <u>See more Click Here >>></u>

### Ter ms:

| Assembler               | Nano assembly               |
|-------------------------|-----------------------------|
| Atomic force microscope | <u>Nanobot swarm</u>        |
| Biomimetics             | <u>Nanobuzz</u>             |
| <u>carbon nanotubes</u> | Nanomachine                 |
| <u>Gray Goo</u>         | Nanomedicine                |
| <u>Macro-scale</u>      | Nanometer                   |
| Massive parallelism     | Nanoscope machines          |
| Matter compiler         | Phagocyte                   |
| micro-environments      | Positional assembly         |
| Molecular manufacturing | Self replication            |
| Molecular motor         | super-conductive properties |
| <u>Nanogears</u>        |                             |

## Locations of research:

The Nanostructures Laboratory (NSL) at MIT http://nanoweb.mit.edu/ Richard E. Smalley Institute for Nanoscale Science and Technology http://cnst.rice.edu/ The Cornell NanoScale Science & Technology Facility (CNF) http://www.cnf.cornell.edu/ Nanoelectronics Laboratory http://www.nanolab.uc.edu/ The Center for Nanotechnology at the U of Washington http://nano.washington.edu/index.asp Foresight is the leading think tank and public interest institute on nanotechnology. Advancing Beneficial Nanotechnology http://foresight.org/

### Not abl e names: Richard P. Feynman

(from: http://www.zyvex.com/) Feynman's classic 1959 talk: <u>There's Plenty of Room at the Bottom</u>.

### K. Eric Drexler, PhD

http://www.imm.org/DrexlerCV.html

#### Inf or mat ive Web Resour ces:

- <u>http://nanobot.info/</u>
- Howstuffworks.com
- http://science.howstuffworks.com/nanotechnol ogy.htm
- National Nanotechnology Initiative http://www.nano.gov/
- The Nano Scale <u>http://www.nano.gov/html/facts/The\_scale\_of</u> <u>things.html</u>
- nanoworld.net
- http://www.nanoword.net/
- <u>http://nanoatlas.ifs.hr/nanobot.html</u>
- <u>Nanotechweb.org</u>

### Books:

### Understanding Nanotechnology

by Scientific American, editors at Scientific American "Albert Einstein, as part of his doctoral dissertation, calculated the size of a single sugar molecule from experimental data on the diffusion of sugar in..." (more) Publisher: Warner Books (December 1, 2002)

### Nanotechnology:

### A Gentle Introduction to the Next Big Idea

by Mark A. Ratner, Daniel Ratner, Mark Ratner "Over the past few years, a little word with big potential has been rapidly insinuating itself into the world's consciousness..." (more) Publisher: Prentice Hall PTR; 1st edition (November 8, 2002)

### Nanofuture:

### What's Next for Nanotechnology

J. Storrs Hall, Foreword by Eric Drexler Pub. Date: April 2005 Publisher: Prometheus Books