



Nanotechnology And Its Future

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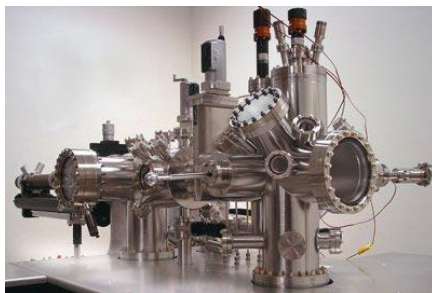


1. Introduction

- Nanotechnology is technology, science, and engineering practiced on the nanoscale.
- To put the size of nanotechnology into perspective, there are 25,400,000 nanometers in one inch.
- Interdisciplinary field, meaning many different types of scientists study nanotechnology, including chemists, biologists, physicists, and engineers.

2. History

- Been around since medieval times, only now discovering properties.
- Nanoscience is a relatively new science that was first studied in 1981.
- The invention of the electron tunneling microscope made studying nanotechnology possible.
- Electron tunneling allows electrons to tunnel through barriers that it could not normally pass through.



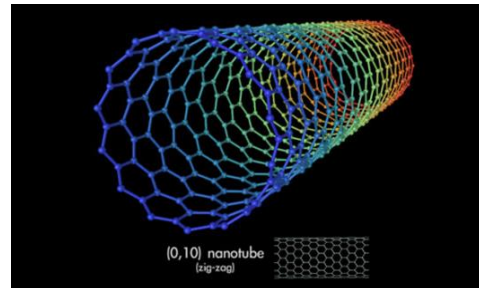
3. Nanomaterial

Nanocomposites

- Adding nanoparticles of one element to a material.
- Improve strength, durability, and heat resistance.
- Used in aerospace material.

Nanotubes

- Carbon atoms formed into tubes.
- Extraordinary properties, 2600°C, carry current 1000 times better than copper.
- Essential for development of nano computers.



Nanocatalyst

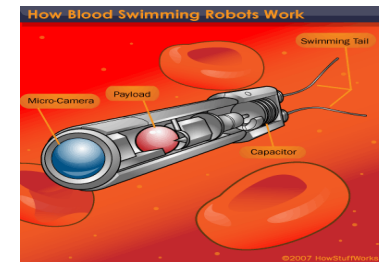
- Increases rate of chemical reactions.
- A group in china has developed a nanocatalyst that can liquefy coal.
- The liquefied coal can be turned into diesel an regular gas (experimental phase).

4. Nanorobotics

- Still in research and development.
- Problems with power and navigation.
- Currently in use – microbots, about 5mm long.

Nanomedecine

- Application of nanorobots in the human body.
- Will be used to fight infections, break blot clots, and fighting cancel cells.
- Can latch on to particles in blood that indicate disease, making them easier to find.
- Precision drug delivery systems.



5. Conclusion

- Although nanotechnology is a new science, it has great importance and is growing quickly in today's world.
- Nanomaterial and nanorobotics are constantly being studied to help create new technologies that will be beneficial in the future.

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