



## Nanotechnology

Nanotechnology is a multidisciplinary field that looks at how to manipulate matter at the molecular and atomic level to produce new materials, devices, and organic structures. These materials and devices can be designed to interact with biological systems for applications in medicine and physiology, or to make objects more resistant to external effects. [Nanotechnology](#) is not by itself a single emerging technology, but rather the collective outputs in new tools and capabilities from many scientific disciplines including biology, chemistry, materials science and physics.

### Proliferation Concerns

Nanotechnology has potential to be incorporated in various nuclear-related [disciplines](#). With nanotechnology it will become possible to fashion new composites and other materials that could be used to improve the [safety and security](#) of nuclear weapons. It will become possible to miniaturize and improve the sensitivity of sensor technologies that could improve monitoring and verification of nuclear stockpiles and testing. Additionally, [materials research](#) has indicated that certain microstructures could be achieved that would improve the feasibility of scaling nuclear fusion energy.