Nanoinformatics Services Section Home

History

The origins of nano informatics can be traced back to the rapid expansion of nanotechnology in the late 20th century. As nanotechnology advanced, the need for efficient data management, simulation, and analysis tools became evident. The synergy between nanotechnology and information science laid the foundation for the emergence of nano informatics. While both fields had been evolving independently, their integration gained prominence as researchers sought ways to handle the vast amounts of data generated by nanoscale experiments.

Chris Phoenix

Known for his work on molecular nanotechnology and the development of simulation tools for nanoscale systems.

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Richard Feynman

While not directly involved in informatics, his influential lecture "There s Plenty of Room at the Bottom" inspired the concept of manipulating matter at the atomic and molecular scale, a foundational idea in nanotechnology.

Industrial Applications

1.

Data Management

Storing and organizing vast amounts of nanotechnology-related data.

3.

Materials Informatics

Accelerating the discovery of new materials with desired properties.

5.

Nanomedicine

Developing targeted drug delivery systems at the molecular level.

7.

Nanomanipulation

Controlling and manipulating individual nanoparticles for various applications.

9.

Nanomanufacturing

Optimizing manufacturing processes at the nanoscale.

11.

Nanosensors

Designing sensitive detectors for various analytes at the nanoscale.

13.

Nanophotonics

Designing devices that manipulate light at the nanoscale.

15.

Nanofabrication

Guiding the fabrication of intricate structures using nanoscale techniques.

17.

Nanocharacterization

Analyzing the properties of nanomaterials using computational tools.

19.

Nanodevice Simulation

Modeling the behavior of nanoscale devices for electronics and beyond.