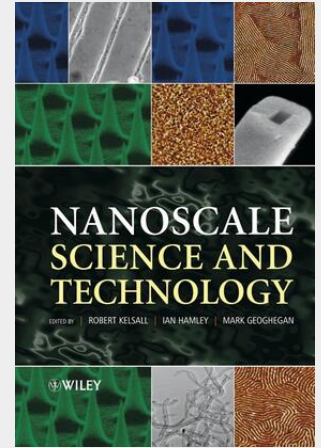


## Nanoscale Science and Technology

Nanotechnology is a vital new area of research and development addressing the control, modification and fabrication of materials, structures and devices with nanometre precision and the synthesis of such structures into systems of micro- and macroscopic dimensions. Future applications of nanoscale science and technology include motors smaller than the diameter of a human hair and single-celled organisms programmed to fabricate materials with nanometer precision. Miniaturisation has revolutionised the semiconductor industry by making possible inexpensive integrated electronic circuits comprised of devices and wires with sub-micrometer dimensions. These integrated circuits are now ubiquitous, controlling everything from cars to toasters. The next level of miniaturisation, beyond sub-micrometer dimensions into nanoscale dimensions (invisible to the unaided human eye) is a booming area of research and development. This is a very hot area of research with large amounts of venture capital and government funding being invested worldwide, as such Nanoscale Science and Technology has a broad appeal based upon an interdisciplinary approach, covering aspects of physics, chemistry, biology, materials science and electronic engineering. Kelsall et al present a coherent approach to nanoscale sciences, which will be invaluable to graduate level students and researchers and practising engineers and product designers.

Nanoscale Science and Technology covers the whole spectrum of nanotechnology, from electronic and magnetic nanostructures to molecular self-assembly and bio-nanotechnology. Written by a team of experts, this book offers specialist analyses of each particular topic, all seamlessly integrated into a fully cross-referenced volume. Maintaining an interdisciplinary approach that addresses aspects of physics, chemistry, biology, materials science and electronic engineering, this book: \* presents a coherent approach to nanoscale sciences, consistent in technical level, extent of coverage, and educational style; \* illustrates important features of each individual area of investigation, using representative examples of research results; and \* discusses the key breakthroughs and future development of nanoscale science and technology. Nanoscale Science and Technology provides an invaluable resource for all who are entering the field of nanotechnology. It is an essential tool for graduates studying nanotechnology-related subjects at postgraduate level, postdoctoral research assistants and final year undergraduates taking nanotechnology options or projects. Industrial research scientists and research directors will also find this book to be an important reference.



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