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Life in 21st century

Nanotechnology, a relatively new field of research and industrial materials development based on the creation of new classes of novel molecular structures, is making rapid advances that promise to radically change or influence many fields of science and technology. This major frontier area of science and technology to produce materials of nanometer scale from multi-micron to sub micron diameter has reached greater heights of scientific & technological developments. Rapid progress has been made in recent years to bring nano-structured materials in various applications such as devices, components, sensors and coatings. The advent of nanomaterials has introduced a new dimension in applications of energetic and reactive materials. The process of transfer of nanostructured materials for commercialization is an increasingly popular scientific area. This pools together researchers from many fields including Physics, Chemistry, Chemical Engineering, Electronics, Material Science and technologists to meet the challenges.

The development of various types of nanomaterials for application in revolutionary medical treatments, agricultural research and food safety diagnostic methods, new environmental remediation procedures, energy applications like solar cell coatings, and even high-volume, everyday products such as cosmetics, dirt-repelling fabrics, and self-cleaning paint, offer innumerable possibilities for human progress. However, it is essential and urgent to assess not only the benefits but also the potential risks posed by nanoparticles, and agree on effective measures to prevent such risks through appropriate regulatory approaches.

As this conference is aimed at Analytical and Bioanalytical Techniques, several techniques invented towards nanotechnological research, such as tip of a scanning probe of STM used to manipulate nanostructures, lithographs (top down fabrication) where a bulk material is reduced in size to nanoscale pattern, would be discussed. Without such techniques meant to measure size and distribution, nanotechnology would not have progressed.

Biography

Ramesh Chaughule was senior Scientist at the Tata Institute of Fundamental Research, Mumbai and now is Adjunct Professor at Ramnarain Ruia College, Mumbai. Also he is Research Advisor at Gogate-Jogalekar College, Ratnagiri, Maharashtra. He has served on International Atomic Energy Agency, Vienna and obtained several assignments out side India. He has more than 60 publications in reputed international journals. In addition he is chief Editor of 3 books in the field of Nanotechnology published by American Scientific Publishers, USA and one book on MRI.

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