DEPARTMENT OF BIOTECHNOLOGY
MINISTRY OF SCIENCE AND TECHNOLOGY
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New Delhi 110 003

4TH CALL FOR PRE-PROPOSALS IN THE AREAS OF NANO MEDICINE AND NANO AGRICULTURE

DBT is encouraging to promote product development in the areas of Nano Medicine and Nano Agriculture for national self reliance through research in institutes and strategic partnership between industries and institutes. Applicants may submit such pre-proposals having promise for excellent basic research or outstanding technological research for commercialization. The priority areas include the following:

Nanotechnology in medicine

- Basic research in nanoscience to advance the understanding of disease biology,
- Early detection of the disease using imaging,
- In vitro early diagnostics: multiplexed sensitive and specific sensors,
- Biotic–abiotic interface with respect to implants and prosthetics,
- Innovative techniques for DNA sequencing,
- Development of nanomaterials for diagnosis or biomarkers,
- Design of nanoparticles or devices for multifunctional therapeutics, novel drug delivery and/or for functional tissue repair and regeneration,
- The development of new sets of design principles to generate biomaterials with nano-level interfacial properties for tissue engineering, implants, and medical devices,
- The development of enabling nanotechnologies for drug and gene delivery systems and devices, sensors and micro/nanosystems, and tissue engineering,
- The development of techniques to characterize the physical, chemical, structural, and biological properties of nanostructured assemblies/materials to advance biomedical technologies.

Nanotechnology in agriculture

- Developing sensors that automatically detects, locates, reports and applies water, fertilizers and pesticides – going beyond sensing to automatic application,
- Nano-pesticide research and development,
- To use nanoparticles, nanofibres and nanocapsules to introduce foreign DNA and chemicals into cells,
- To improve nutritional value, and shelf-life of food, and helping to increase food production to meet future population growth trends,
- Nanotechnology as potential applications for animal production systems, including new tools to aid animal breeding, targeted disease treatment/delivery systems and new materials for pathogen detection.

Fifteen copies of the concept papers (not more than 10 pages) should be submitted positively on or before **20 April 2009** by post to: **Dr R. R. Sinha**, Adviser, Department of Biotechnology, Block-2, 6th Floor, CGO Complex, Lodhi Road, New Delhi 110 003. The concept paper should include, (a) title of the concept, (b) its preliminary proof, (c) major objectives, (d) milestones, (e) expected deliverables/ outcomes, (f) expertise in form of publications in high impact factor journals, (g) the budget, (h) projects in hand and association with industry if any.