

## **PROJECTS SANCTIONED UNDER NANO MISSION DURING FY 2010-2011**

### **Scientist-Centric Research Projects = 36**

Sr.	Project Title & File No.	PI details
1.	SR/NM/NS-65/2009 Nanoscale fabrication of aligned nano-architected copper current collectors covered with metal phosphides as anode for next generation Lithium-ion battery applications.	Dr. Sagar Mitra Department of Energy Science and Engineering Indian Institute of Technology-Bombay, Powai, Mumbai – 400 076
2.	SR/NM/NS-97/2008 Photoadduct based Nanocomposites: Synthesis, characterization, electrical, thermal and mechanical properties.	Dr.(Ms.) Kowsar Majid Department of Chemistry National Institute of Technology Hazratbal, Srinagar -190 006 (J&K)
3.	SR/NM/NAT-07/2008 GaN/In GaN based Light Emitting Diodes, Solar Cells and Photoelectrochemical (PEC) devices by MOCVD epitaxial process.	Dr. Dhrubes Biswas Department of Electronics & Electrical Communication Engineering Indian Institute of Technology – Kharagpur Kharagpur -721 302
4.	SR/NM/NS-39/2009 Cyclability and Rate Capability Performance Studies of Rechargeable Lithium Batteries containing Nanostructured Electrode Materials and Soft Matter Electrolytes.	Dr. Aninda Jiban Bhattacharyya Solid State Structural Chemistry Unit Indian Institute of Science, Bangalore - 560 012
5.	SR/NM/NS-63/2009 Cross-linked polymeric cages for encapsulation and sustained release of nanomaterials/drugs	Dr. (Ms.) Sangeeta N. Kale Department of Applied Physics Defence Institute of Advanced Technology, Girinagar Pune – 411 025 (Maharashtra)
6.	SR/NM/NS-73/2009 Metal nano-cluster organizes by biomolecular templating using cubosomes and lyophilisomes.	Dr. (Ms.) Aruna Dhathathreyan Chemical Laboratory Central Leather Research Institute (CLRI), Adyar, Chennai – 600 020 (Tamilnadu)
7.	SR/NM/NS-06/2009 Biologically synthesized Gold nanoparticles using Seaweed <i>Sargassum Spp</i> for anti-diabetic studies.	Dr. V.Ganesh Kumar Centre for Ocean Research, Sathyabama University, Jeppiar Nagar, Old Mamallapuram Road Chennai – 600 119
8.	SR/NM/NS-89/2009 Development and performance evaluation of Carbon Nano Coil structure for the catalyst support in PEM fuel cells.	Dr. Kamal K. Kar Department of Mechanical Engineering and Materials Science Programme Indian Institute of Technology- Kanpur Kanpur – 208 016
9.	SR/NM/NS-08/2009 Development of innovative peptide and peptide hybrid material based multifunctional nanostructures for cancer Imaging and targeted Drug delivery.	Dr. Virandar S. Chauhan International Centre for Genetic Engineering and Biotechnology (ICGEB) ICGEB Campus, P.O. Box No. 10504 Aruna Asaf Ali Marg, New Delhi – 110 067 (Delhi)

10.	SR/NM/NS-84/2009 Development of novel microscopic techniques for nano-bio-mechanics.	Dr. Shivprasad V. Patil Indian Institute of Science Education and Research – Pune, 1 <sup>st</sup> Floor, Central Tower, Sai Trinity Building, Garware Circle Sutarwadi, Pashan, Pune- 411 021 (Maharashtra)
11.	SR/NM/NS-101/2008 Development and Formulation of Sustained Release Nanoparticles of some anti-diabetic Drugs	Dr. J. B. Naik Department of Chemical Technology North Maharashtra University Jalgaon- 425 001 (Maharashtra)
12.	SR/NM/NS-49/2005 Development of thin film lithium batteries using nanomaterials as power sources for devices based on nanotechnology: Synthesis, Fabrication and Characteristics Studies.	Dr. N. Satyanarayana Department of Physics Pondicherry University, Puducherry - 605 014
13.	SR/NM/NS-28/2010 Study of Surface Plasmons in Nano-composite Thin Films.	Dr. P. Arun Department of Physics & Electronics S.G.T.B Khalsa College University of Delhi, Delhi – 110 007
14.	SR/NM/NS-54/2009 Development of engineered nano-structured materials for high performance applications.	Dr. Sabu Thomas Centre of Nanoscience and Nanotechnology Mahatma Gandhi University Priyadarshini Hills P.O., Kottayam – 686 560 (Kerala)
15.	SR/NM/NS-48/2009 Development of magnetic nanoparticle based biosensor for early diagnosis of cancer.	Dr. (Ms.) Keka Sarkar Department of Microbiology University of Kalyani, Kalyani Nadia – 741 235 (West Bengal)
16.	SR/NM/NS-49/2009 Multi-junctioned polarized quantum materials for photosensitive applications.	Dr. Somobrata Acharya Centre for Advanced Materials Indian Association for the Cultivation of Science, 2A & B, Raja SC Mullick Road Jadavpur, Kolkata – 700 032 (West Bengal)
17.	SR/NM/NS-94/2009 Nanosensor array based on metalloporphyrins functionalised SWNTs for Real Time Monitoring of Toxic Volatile Organic Compounds.	Dr. Mahendra D. Shirsat Department of Physics Dr. Babasaheb Ambedkar Marathwada University Aurangabad – 431 004 (Maharashtra).
18.	SR/NM/NS-86/2009 Synthesis, Characterization and Applications of Functionalized Nanomaterials.	Dr. J. B. Fernandes Department of Chemistry Goa University, Taleigao Plateau, Goa – 403 206
19.	SR/NM/NS-44/2009 Computational Study of Functionalized Nanoparticles.	Dr. (Ms.) Satyavani Vemparala Institute of Mathematical Sciences C.I.T. Campus, Taramani Chennai – 600 113 (Tamilnadu)
20.	SR/NM/NS-90/2008 Molecular and immuno – toxicological effects of Dextran coated Ferrite and Hydroxylapatite nanomaterials	Dr. P.V. Mohanan Toxicology Division, Biomedical Technology Wing Sree Chitra Tirunal Institute for Medical Sciences and Technology, Poojappura Thiruvananthapuram – 695 012 (Kerala)

21.	SR/NM/NS-12/2009 Synthesis, Characterization and Applications of Functionalized Nanomaterials.	Dr. G. T. Chandrappa Department of Chemistry Central College Campus, Bangalore University Bangalore – 560 001 (Karnataka)
22.	SR/NM/NS-18/2010 Development of Organic-Inorganic Hybrid Polymeric Nanomaterials for Speciality Applications.	Dr. M. Alagar Department of Chemical Engineering Alagappa College of Technology Anna University, Chennai – 600 025 (Tamilnadu)
23.	SR/NM/NS-40/2010 Nano-Molecular Structures Stabilized Thin-film Electrodes: Preparation, Surface Correlation and Electrocatalysis.	Dr. Annamalai Senthil Kumar Environmental & Analytical Chemistry Division School of Advanced Sciences Vellore Institute of Technology University Vellore – 632 014 (Tamilnadu)
24.	SR/NM/NS-29/2010 Design, Synthesis and Fabrication of Low Molecular Mass Organic Nanostructured Materials and Studies of their Optical and Optoelectronic Properties	Dr. Dilip Kumar Maiti Department of Chemistry University of Calcutta 92, APC Road, Kolkata -700009
25.	<b>SR/NM/NS-12/2010</b> Nanostructured 3D-Ordered Molecular Films.	Dr. Tarkeshwar Gupta Department of Chemistry University of Delhi Delhi – 110 007
26.	SR/NM/NS-95/2009 Development of solid supported bimetallic nano catalysts and their application in coupling reactions.	Dr. Pralay Das Natural Plant Product Division Institute of Himalayan Bioresource Technology (CSIR) Palampur - 176 061 (Himachal Pradesh)
27.	SR/NM/NS-43/2010 Characterization of composite materials and application of Nanomaterials for sustainable energy	Dr. G.L. Shekar National Institute of Engineering Manandavadi Road, Mysore - 570 008 (Karnataka)
28.	<b>SR/NM/NS-38/2010</b> Development of Polymer Nanocomposites, Nanocoatings and Nanostructured Magnets	Dr. M. Krishna Department of Mechanical Engineering R.V. College of Engineering Bangalore - 560 059 (Karnataka)
29.	SR/NM/NS-31/2010 Gold nanoparticles: Burgeoning Therapeutic molecules for Proliferative diabetic retinopathy	Dr. G. Sangiliyandi Department of Biotechnology and Chemical Engineering Kalasalingam University Anand Nagar, Krishnankoil – 626 190 (Tamilnadu)
30.	<b>SR/NM/NS-96/2008</b> Design and Modeling of Carbon Nanotubes (CNTs) Field Effect Transistors for Low Power Circuits.	Dr. M. Shah Alam Department of Electronics Engineering Z.H. College of Engineering & Technology Aligarh Muslim University Aligarh- 202 002 (Uttar Pradesh)
31.	SR/NM/NS-30/2010 Investigations on Electro-active Polymeric Composites of Nano-structured piezoceramics.	Dr. Jacob Philip Department of Instrumentation Cochin University of Science and Technology Cochin – 682 022 (Kerala)

32.	SR/NM/NS-63/2010 Instability and Pattern Formation in Thin Polymer Bilayers	Dr. Rabibrata Mukherjee Department of Chemical Engineering Indian Institute of Technology-Kharagpur Kharagpur - 721 302 (West Bengal)
33.	<b>SR/NM/NS-58/2010</b> Understanding mechanism of enhanced immunity using nanotechnology based immune modulators.	Dr. Palok Aich School of Biological Sciences National Institute of Science Education and Research (NISER-Bhubaneswar) Institute of Physics Campus P.O. Sainik School, Bhubaneswar - 751 005 (Orissa)
34.	SR/NM/NS-25/2010 Development of Nanofibrous Cubic Spinel Metal Oxides and composite Polymer Electrolyte Membranes by Electrospinning Technique for Asymmetric Supercapacitors.	Dr. A. Subramania Centre for Nanoscience and Technology School of Green Energy Technologies Pondicherry University Puducherry – 605 014 (Pondicherry)
35.	SR/NM/NS-48/2010 Development of rare earth doped nanophosphorous for display and dosimetric applications	Dr. H. Nagabhushana Department of PG Studies and Research in Physics, University College of Science Tumkur University Tumkur - 572 103 (Karnataka)
36.	SR/NM/NS-34/2008 Formulation of polymeric nanoparticles-encapsulated curcumin (nanocurcumin) and brain targeted for the prevention of cerebral ischemia	Dr. M. Shamim Department of Chemistry Jamia Hamdard (Hamdard University) Hamdard Nagar, New Delhi-110 062 (Delhi)

### **PG Programmes = 2**

1.	<b>SR/NM/PG-05/2008</b> Post Graduate Teaching Programme (M.Tech.: 2 year Duration) in Nano Science & Technology at the Periyar Maniammai University, Thanjavur	Programme Coordinator: Dr. D. Kumar, Department of Electronics and Communication Engineering Periyar Maniammai University, Periyar Nagar, Vallam, Thanjavur - 613 403 (Tamilnadu)
2.	<b>SR/NM/PG-08/2008</b> PG Programme entitled “P.G. Teaching Programme: M.Tech in Nano Science & Technology (Duration: 2 years) with annual intake of 20 students in Department of Electronic Science & Technology, Kurukshetra University, Kurukshetra”.	Programme Coordinator: Dr. Dinesh Kumar Department of Electronic Science and Technology Kurukshetra University Kurukshetra – 136 119 (Haryana)

### Accelerator-based research facilities = 2

1.	Ion induced growth and Engineering of Materials	Dr. Sanjeev Aggarwal Department of Physics, Kurukshetra University Kurukshetra – 136 119 (Haryana)
2.	High Fluence Ion Beam Facility at University of Allahabad, Allahabad	Dr. Avinash C Pandey Reader, Department of Physics University of Allahabad Allahabad-211 002 (Uttar Pradesh)

### Units on Nano Science = 4

1.	<b>SR/NM/NS-51/2010</b> Unit on Nanoscience at the Indian Association for the Cultivation of Science (IACS), Kolkata	<b>Dr. Arun K. Nandi</b> Polymer Science Unit <b>Dr. Ashwini Ghosh</b> Department of Solid State Physics Indian Association for the Cultivation of Science, Jadavpur, Kolkata - 700 032 (West Bengal)
2.	<b>SR/NM/NS-53/2010</b> Unit on Nanoscience at the S. N. Bose National Centre for Basic Sciences, Kolkata	<b>Dr. A.K. Raychaudhuri</b> <b>Dr. Samir K. Pal</b> <b>Dr. Anjan Barman</b> S.N. Bose National Centre for Basic Sciences JD Block, Sector – III, Salt Lake Kolkata - 700 098 (West Bengal)
3.	<b>SR/NM/NS-88/2010</b> Unit on Nanoscience at the Indian Institute of Science, Bangalore (Nanoscale Hybrid Assemblies: An Integrated Approach to Probing Nanoscale Phenomena)	<b>Dr. S. Sampath</b> Department of Inorganic & Physical Chemistry Indian Institute of Science Bangalore - 560 012 (Karnataka)
4.	<b>SR/NM/NS-14/2010</b> Unit project entitled “Unit on Nanoscience at the Banaras Hindu University, Varanasi”.	<b>Dr. O.N. Srivastava</b> Department of Physics, Banaras Hindu University Varanasi-221 005 (Uttar Pradesh)

### Beamline project = 1

1.	<b>SR/NM/Z-12/2008</b> Development of a Beam Line at PETRA III and assured access to all PETRA III Beam Lines and FLASH facility at DESY, Hamburg, Germany	Dr. M.K. Sanyal Saha Institute of Nuclear Physics (SINP) 1/AF, Bidhannagar, Kolkata -700 064 (West Bengal)
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### International Collaborative programme = 1

1.	<b>SR/NM/Z-31/2011</b> Indo-Canadian collaborative programme in Nano Science and Technology”	Programme Coordinator: Dr. G. Sundararajan, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Balapur P.O., Hyderabad-500 005 (Andhra Pradesh).
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