

## NEW PROJECTS SANCTIONED DURING FY 2016-17 BY NANO MISSION

### Individual Scientist-Centric Research Projects=48

Sr. No.	Date of Sanction	DST Reference Number and Project Title	Principal Investigator details	Project duration (months)
1.	03.05.2016	SR/NM/NS-1252//2013 Regulatory pathways and role of zinc oxide(ZnO) nanoparticles in angiogenesis	<b>Dr. Chittaranjan Patra</b> Department of Biomaterials Indian Institute of Chemical Technology Hyderabad-500 007 (Telangana)	36
2.	23.05.2016	SR/NM/NS-1027/2015 Nitrogen doped partially exfoliated multi walled carbon nanotubes-PIRu nanoparticles hybrids as high performance anode for direct methanol fuel cells	<b>Dr. S. Ramaprabhu</b> Department of Physics IIT-Madras Chennai-600 036(Tamil Nadu)	36
3.	23.05.2016	SR/NM/NS-18/2014 Solution phase conversion of nanoscale metals into intermetallics: Efficient catalysts for chemoselective organic transformations	<b>Dr. Subhra Jana</b> DST Inspire Faculty S. N. Bose National Centre for Basic Sciences Sector-III, Salt Lake, Kolkata-700 098	36
4.	23.05.2016	SR/NM/NS-1376/2014 Carbon Nanotubes Based Electrochemical Immunosensor for small Cell Lung Cancer Diagnosis	<b>Dr. Tharamani Chikka Nagaiah</b> Indian Institute of Technology Ropar-140 001(Punjab)	36
5.	30.05.2016	SR/NM/NS-01/2015 Fabrication and characterization of hybrid nano sponge dressing for healing of infections burn wound	<b>Dr. R. Mala</b> Department of Biotechnology Mepco Schleck Engineering College Sivaski- 626 005(Tamil Nadu)	36
6.	30.05.2016	SR/NM/NS-1339/2014 Metal oxide and sulfide based nanostructures for charge storage applications	<b>Dr. S. B. Ogale</b> Department of Physics IISER, Dr. Homibhabha Road, Pashan, Pune-411008 (Maharashtra)	36
7.	03.06.2016	SR/NM/NS-1053/2015 Fabrication of fluorescent carbon quantum dots: Role of functional group	<b>Dr. S. Philip Anthony</b> Department of Chemistry SASTRA University	36

		of precursor and sensing, catalysis and biological application		
8.	03.06.2016	SR/NM/NS-1062/2015 Theoretical and experimental investigation of induced magnetism in grapheme nanoribbons (GNRs) upon conjugation	<b>Dr. Suwarna Datar</b> Department of Applied Physics Defense Institute of Advanced Technology (DIAT), Girinagar, Pune- 411 025(Maharashtra)	36
9.	03.06.2016	SR/NM/NS-1105/2015 Low temperature partial of methane to synthesis gas over nanocrystalline Ni/CeO <sub>2</sub> Catalysts	<b>Dr. Rajaram Bal</b> Nanocatalysis Area Refining Technology Division Indian Institute of Petroleum, Mohkampur, Haridwar Road, Dehradun-248 005	36
10.	08.06.2016	SR/NM/NS-1054/2015 Design, Synthesis and application of carbon-metal oxide/zeolite-metal oxide hybrid materials	<b>Dr. Rajendra Srivastava</b> Department of Chemistry Indian Institute of Technology-Ropar, Nangal Road Rupnagar-140 001(Punjab)	36
11.	08.06.2016	SR/NM/NS-1036/2015 Spin transport in 2D material(grapheme)/perovskites(LSMO) heterostructures	<b>Dr. Jayakumar Balakrishnan</b> DST INSPIRE Faculty Department of Physics Indian Institute of Technology-Patna, Navin Govt. Polytechnic Campus, Patliputra Colony Patna-800 013	36
12.	08.06.2016	SR/NM/NS-1469/2014 A molecular dynamics based atomistic simulation to study the effect of nanofillers on the mechanical and thermal properties of polymer nanocomposites	<b>Dr. Avinash Parashar</b> Department of Mechanical and Industrial Engineering Indian Institute of Technology-Roorkee Roorkee-247 667 (Uttarakhand)	36
13.	09.06.2016	SR/NM/NS-1140/2015 Influence of functionalized nanomaterial biosensing of biotin-avidin couple	<b>Dr. Pradip Kar</b> Department of Applied Chemistry Birla Institute of technology-Mesra, Ranchi-831215 (Jharkhand)	36
14.	21.06.2016	SR/NM/NS-1065/2015 Pd-Nanoparticles catalyzed synthesis of	<b>Dr. Debabrata Maiti</b> Department of Chemistry	36

		heterocycles via multiple C-H bond activation	Indian Institute of Technology-Bombay Powai, Mumbai-400076 (Maharashtra)	
15.	05.07.2016	SR/NM/NS-1118/2014 Brain targeting of an anti-epileptic drug via intra-nasal nanostructured lipid carriers	<b>Dr. Sabitha M.</b> Department of Pharmaceutics Amrita School of Pharmacy Health Science Campus, AIMS Ponekkara, Kochi- 682041 (Kerala)	36
16.	12.07.2016	SR/NM/NS-1109/2015 Improvement in Zinc Micronutrient delivery for cereal crops employing engineered nanoparticles	<b>Dr. Kuldeep Singh</b> Amity International Centre for Post-Harvest and Cold chain Management, Block-J1, Room no. G-19, Sector-125, Noida - 201313 (Uttar Pradesh)	36
17.	13.07.2016	SR/NM/NS-1141/2015 Multifunctional Magnetic Nanoparticles for Cancer Teranostic Applications	<b>Dr. Dipak Murthy</b> Department of Mechanical Engineering Shiv Nadar University Noida-201 314 (Uttar Pradesh)	36
18.	13.07.2016	SR/NM/NS-1118/2015 Engineering of Self-assembled lapped nanoparticles for cancer combination therapy	<b>Dr. Avinash Bajaj</b> Regional Centre for Biotechnology 3 <sup>rd</sup> Milestone Faridabad-Gurgaon Expressway, Village Bhankri Faridabad- 121 001(Haryana)	36
19.	20.07.2016	SR/NM/NS-1004/2015 Hybrid Magnetic Nanoparticle Aptamer Bio-sensor for On-Farm Early Pregnancy Diagnosis in Cattle	<b>Dr. K. G. Tirumugaan</b> Translational Research Platform for Veterinary Biological and Animal Biotechnology Tamil Nadu Veterinary and Animal Sciences University, Chennai	36
20.	22.07.2016	SR/NM/NS-1509/2014 Acoustic detection of Leidenfrost dynamics on scalable micro-/nano-structured surfaces	<b>Dr. Rishi Raj</b> Department of Mechanical Engineering Indian Institute of Technology-Patna, Patna-800 013(Bihar)	36

21.	25.07.2016	SR/NM/NS-1349/2014 Nanotechnology-related environment, health and safety research: Examining the nanotoxic effects on non-human biota earthworm for environmental health perspectives	<b>Dr. Kathireswari Palanisamy</b> Department of zoology Kongunado Arts and Sciences College G. N. Mills P.O., Couimabtores-641 029(Tamil Nadu)	36
22.	03.08.2016	SR/NM/NS-1111/2015 Evaluating therapeutic potential of polyglutamine aggregation peptide inhibitors through nanoparticles-based-delivery approach in Huntington's disease	<b>Dr. Ashwani Kumar Thakur</b> Department of Biological Sciences and Bioengineering Indian Institute of Technology-Kanpur, Kanpur-208016	36
23.	09.08.2016	SR/NM/NS-1470/2014 Synthesis and characterization of siRNA loaded ligand bearing PLGA nanoparticles for targeted delivery to the lung cancer	<b>Dr. Awadh Bihari Yadav</b> Centre for Biotechnology University of Allahabad Allahabad- 211 002(Uttar Pradesh)	36
24.	06.09.2016	SR/NM/NS-1091/2015 Development of biodegradable nanoparticles for concomitant delivery of anti-cancer peptide/DNA and chemotherapeutic drugs for cancer therapy	<b>Dr. Harpal Singh</b> Centre for Biomedical Engineering Indian Institute of Technology New Delhi-110 016	36
25.	15.09.2016	SR/NM/NS-1135/2015 Development of nanofibrous membrane for wound healing by controlled release of Indian honey and curcumin	<b>Dr. Ketankumar Vadodaria</b> Centre of Excellence for Medical Textiles South India Textile Research Association (SITRA), Tamil Nadu, Coimbatore- 641 014	36
26.	26.09.2016	SR/NM/NS-1439/2014 Ordered assemblies of nanoparticles confined in self-assembled block copolymer structures	<b>Dr. Bhanu Nandan</b> Department of Textile Technology Indian Institute of Technology New Delhi-110 016	36
27.	28.09.2016	SR/NM/NS-1125/2015 Efficient conversion of CO <sub>2</sub> into fuel and chemicals using ordered nano intermetallics	<b>Dr. Sebastian C. Peter</b> Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur, Bangalore-560 064 (Karnataka)	36
28.	28.09.2016	SR/NM/MS-1001/2016	<b>Dr. J. Jayabharathi</b>	36

		Hybrid inorganic-organic nanosemiconductor light-emitting devices with pristine and doped ZnO as an electroninjection layer and Irridium(III) complexes as emissive layer	Department of Chemistry Annamalai University Annamalainagr-608002 (Tamil Nadu)	
29.	21.09.2016	SR/NM/NS-1491/2014 Synthesis and characterization of cinnamaldehyde-FITC-Folate conjugated Fe <sub>3</sub> O <sub>4</sub> nanoparticles for targeted delivery in breast cancer	<b>Dr. Ruchika Kaul Ghanekar</b> Cell and Translational Research Laboratory Interactive Research School for Health Affairs Medical College Campus, Bharati Vidyapeeth. Dhankawadi Pune	36
30.	29.09.2016	SR/NM/NS-39/2016 Design of advanced nanostructured materials for novel applications	<b>Dr. B.R. Mehta</b> Department of Physics Indian Institute of Technology Hauz Khas, New Delhi-110 016	36
31.	29.09.2016	SR/NM/NS-23/2016 Dipolar and Multipolar Interactions in Assembled Molecules and Nanostructures: Developing a General Description and its applications	<b>Dr. K George Thomas</b> School of Chemistry IISER-Thiruvananthapuram Trivandrum 695 016(Kerala)	36
32.	29.09.2016	SR/NM/NS-45/2016 Superconducting 2D materials and their nanoscale devices	<b>Dr. Mander M Deshmukh</b> Department of Condensed Matter Physics Tata Institute of Fundamental Research (TIFR) Homi Bhabha Road Mumbai-400005 (Maharashtra)	36
33.	25.11.2016	SR/NM/NS-1154/2015 Delivery of miRNA-nanoparticle complex to promote repair and regeneration after myocardial injury	<b>Dr. Virendra Gajbhiye</b> Centre for Nano bioscience Agarkar Research Institute GG Agarkar Road, Pune, Maharashtra-411 004	36
34.	16.12.2016	SR/NM/NS-1183/2015 Development of lipophilic gadolinium chelates conjugated silica and titanium dioxide nanoparticles as contrast enhancing agents for magnetic resonance angiography	<b>Dr. V. Alexander</b> Department of Chemistry Loyola College, Nungambakkam, Chennai, Tamil Nadu-600 034	36

35.	04.01.2017	SR/NM/NS-1475/2014 Molecular structure and suparmolecular packing of misfolded proteins within the amloid nanostructures: A Nanoscale Biophysics Approach	<b>Dr. Samrat Mukhopadhyay</b> Chemical Sciences & Biological Sciences Indian Institute of Science Education and Research (IISER) Sector-81, S. A. S. Nagar, P.O. Manauli, Mohali-140306 (Punjab)	36
36.	05.01.2017	SR/NM/NS-1510/2014 Low cost diagnostic system for public health surveillance targets bacterial enteric pathogens	<b>Prof. Ashok K Ganguli</b> Department of Nanotechnology Institute of Nano Science and Technology, Habitat Centre, Phase-10, Sector-64 Mohali-160062 (Punjab)	36
37.	06.01.2017	SR/NM/NS-1017/2016 Hepatocyte Targeted Carbohydrate Anchored Smart Nanostuctured Lipid Carries for treatment of Malaria	<b>Dr. (Mrs.) Ujwala A. Shinde</b> Department of pharamaceutics Bombay College of Pharamacy Kalian, Santacruz(East) Mumbai-400 098	36
38.	13.01.2017	SR/NM/NS-1027/2016 Evaluation of the potential of siRNA loaded loctoferrin nanoparticles for the treatment of prostate and testicular cancer	<b>Dr. Suresh Yenugu</b> Animal Biology University of Hyderabad P.O. Central University Hyderabad, Telangana- 500 046	36
39.	16.01.2017	SR/NM/NS-1420/2014 Design and applications of magnetically responsive self assembled polymer nanocomposites	<b>Dr. Nandakumar Kalarikkal</b> Centre for Nanoscience and Nanotechnology Mahatma Gandhi University Priyadarshini Hills, Kottayam-	36
40.	17.01.2017	SR/NM/NS-1185/2015 A Therapeutic approach of targeted delivery of miRNAs through nanoparticles to control metastasis of Triple Negative Breast cancer in-vitro and in-vitro and in-vivo	<b>Dr. Argya Adhikary</b> DST INSPIRE FACULTY Centre for Research in Nanotechnology University of Kolkata Kolkata, West Bengal-700 098	36
41.	20.01.2017	SR/NM/NS-57/2016 Synthesis and application of nano materials towards energy storage and EMI shielding, targeted drug delivery and theranostic application of biocompatible micro particles derived from human platelet for nano	<b>Prof. O. N. Srivastava</b> Department of Physics Institute of Science Banaras Hindu University Varanasi-221 005 (Uttar Pradesh)	36

		therapeutics		
		SR/NM/NS-57/2016	<b>Prof Shyam Sundar</b> Department of Medicine Institute of Medical Science Banaras Hindu University Varanasi-221 005	
		SR/NM/NS-57/2016	<b>Prof. D. Dash</b> Department of Biochemistry Institute of Medical Science Banaras Hindu University Varanasi-221 005	
42.	28.02.2017	SR/NM/NS-1018/2016 Ferromagnetic-semiconductor heterostructures for magnetic field sensing and optoelectronics applications	<b>Dr. Subhankar Bedanta</b> National Institute of Science Education and Research (NISER)-Bhubaneswar, Khurda-752 050 (Orissa)	36
43.	28.02.2017	SR/NM/NS-1157/2015 Frequency stabilization of MoS2 nanoresonator using internal resonance	<b>Dr. Akshay Naik</b> Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru, Bengaluru-560 012 (Karnataka)	36
44.	28.02.2017	SR/NM/NS-1178/2015 An investigation on the optical, electrical and spectral characteristics of strain-coupled facility	<b>Dr. Subhananda Chakrabarti</b> Department of Electrical Engineering Indian Institute of Technology-Bombay, Powai, Mumbai-400 076 (Maharashtra)	36
45.	23.01.2017	SR/NM/NS-16/2015 Exploring the synergism of PPAR-Y agonist and HDAC inhibitor for reversal of Alzheimer's type of dementia and developing their brain targeted nano-carrier system for effective treatment	<b>Dr. Rajiv Taliyan</b> Department of Physics Birla Institute of Technology and Science, Pilani, Rajasthan-333031	36
46.	25.01.2017	SR/NM/NS-1205/2015 Multifunctional stimuli responsive theranostic magnetic nano micelles for treatment of breast cancer	<b>Dr. S. Anuradha</b> Center of Nanotechnology & Advanced Biomaterials, School of Chemicals & Biotechnology, SASTRA University, Thanjavur, Tamil Nadu-613 401	36
47.	20.02.2017	SR/NM/NS-1185/2016 Candidate chikungunya virus vaccine:	<b>Dr. Yogesh A. Karpe</b> Center for Nanobioscience	36

		nanoparticle-mediated delivery of recombinant antigens to antigen presenting cells (APCs)	Agharkar Research Institute G.G. Agharkar Road, Pune-411004	
48.	06.03.2017	SR/NM/NS-1113/2016 Supramolecular assembly of glycol-nanoparticles to target endothelial inflammation in brain	<b>Dr. Raghendra Kikkeri</b> Department of Chemistry Indian Institute of Science Education & Research (IISER) Dr. Homibhabha Road, Pashan, Pune-411008 (Maharashtra)	36
49.	20.03.2017	SR/NM/NS-1099/2016 Targeting onco-miRNAs with a novel oleic acid-pluoronic stabilized porousTiO2 nanoparticle for specific synergistic delivery of small molecule combination to combat triple negative breast cancer	<b>Dr. Parimal C. Sen</b> Department of Molecular Medicine Bose Institute, P1/12 CIT Scheme VIIM, Kolkata, West Bengal-700054	36

### Technology Projects=8

Sr. No.	Date of Sanction	DST Reference Number and Project Title	Principal Investigator details	Project duration (months)
1.	22.09.2016	SR/NM/NT-1034/2015 Fluorescence nose (F-Nose) for MTB VOC detection	<b>Dr. Phani Kumar Pullela</b> Department of Chemistry CMR Institute of Technology 132 ITPL Main Road AECS Layout, Kundalahalli Bangalore-560 037(Karnataka)	36
2.	28.09.2016	SR/NM/NT-1011/2015 Development of bulk nano-hetrojunction solar cell based on atomically passivated quantum dots	<b>Dr. Arup Kumar Rath</b> Physical and Material Chemistry Division CSIR-National Chemical Laboratory, Dr. Homi Bhabha Road, Pune-411 008	36
3.	29.09.2016	SR/NM/NT-1090/2014 Construction of diatoms solar panels for bio-fuel production	<b>Dr. Vandana Vinayak</b> Department of Criminology and Forensic Sciences Dr. H.S. Gour Central University, Sagar-470003 (Madhya Pradesh)	36
4.	05.12.2016	SR/NM/NT-1039/2015	<b>Dr. R. John Bosco Balaguru</b>	36



		Development of multifunctional textiles by modifying textiles with nanostructured metal oxide materials for UV filter applications	Centre for Nanotechnology & Advance Biomaterials & School of Electrical & Electronics Engineering SASTRA University Triumalaisamudram, Thanjavur-613 401(Tamil Nadu)	
		SR/NM/NT-1039/2015	<b>Dr. Apurba Das</b> Department of Textile Technology Indian Institute of Technology-Delhi Hauz Khas, New Delhi- 110016	36
5.	27.12.2016	SR/NM/NT-1038/2015 Devices for neuromorphic networks for learning and recognition	<b>Dr. Udayan Ganguly</b> Department of Electrical Engineering Indian Institute of Teechnology-Bombay, Powai, Mumbai-400 076 (Maharashtra)	36
6.	16.01.2017	SR/NM/NT-1045/2015 Development of anti-bacterial silver Nanoparticle-graphene composites to control microfouling and corrosion of steels	<b>Dr. Chandan Srivastava</b> Department of Materials Engineering Indian Institute of Science Bangalore-560 012 (Karnataka)	24
7.	18.01.2017	SR/NM/NT-1464/2014 Development of nanoporous capacitive thin film ceramic sensor for low ppm moisture detection in gas/liquid system	<b>Dr. Debdulal Saha</b> Sensor & Actuator Division CSIR-Central Glass & Ceramic Research Institute, 196, Raja S.C. Mullick Road Jadavpur Kolkata-700 032 (West Bengal)	24
8.	22.02.2017	SR/NM/NT-1065/2015 Development of nanoscale multiferroic heterostructures integrated on silicon for room temperature ME-RAM and magnetic sensors applications	<b>Dr. (Mrs.) Davinder Kaur</b> Department of Physics Indian Institute of Technology Roorkee-247 667 (Uttarakhand)	36

**Thematic Projects in frontiers of Nano S & T=6**

<b>Sr. No.</b>	<b>Date of Sanction</b>	<b>DST Reference Number and Project Title</b>	<b>Principal Investigator details</b>	<b>Project duration (months)</b>
1.	22.09.2016	SR/NM/TP-13/2016 Thematic Project in frontiers of Nano S & T entitled „Nanoscience for clean energy“ at the Indian Institute of Science Education & Research,Pune	<b>Prof. S. B. Ogale</b> Indian Institute of Science Education & Research (IISER) Dr. Homibhabha Road, Pashan, Pune-411008 (Maharashtra)	36
2.	29.09.2016	SR/NM/TP-62/2016 Thematic Project in frontiers of Nano s 7 T entitled “2D materiasl“ at the Indian Institute of Science, Bengaluru	<b>Prof. P.S. Anil Kumar</b> Department of Physics Indian Institute of Science Banglore-560 012(Karnataka)	36
3.	29.09.2016	SR/NM/TP-83/2016 3-D printing and development of Tissue-on-Dish and Lab-on-chip	<b>Dr. S. Swaminathan</b> Centre for Nanaotechnology & Advanced Biomaterials Anusandhan Kendra, SASTRA University,Thanjavur-613 401	36
4.	29.09.2016	SR/NM/TP-56/2016 Development of Lab-on-chip platforms for efficient and automated farming (LEAF)-Agricultural Sensors	<b>Prof. V. Ramgopal Rao</b> Indian Institute of Technology Hauz Khas, New Delhi-110 016	36
		SR/NM/TP-56/2016	<b>Prof. C. Subramaniam</b> Department of Chemistry Indian Institute of Technology-Powai, Mumbai- 400 076 (Maharashtra)	36
		SR/NM/TP-56/2016	<b>Dr. Balaram Marathi</b> Institute of Biotechnology PJ Telangana State AgriculturalUniversity Rajendranagar, Hyderabad- 500 030 (Telangana)	36
5.	29.09.0216	SR/NM/TP-15/2016 Clinical translation and new frontiers of medical nanosystems	<b>Prof. Shantikumar V. Nair</b> Amrita Institute of Medical Sciences & Research Centre(AIMSRC) Kochi-682026(Kerala)	36

6.	09.11.2016	SR/NM/TP-25/2016 Chemical physics of functional nanostructures and interfaces	<b>Prof. G.U. Kulkarni</b> Centre for Materials for Nano and soft matter Sciences Bangalore-560013(Karnataka)	36
		SR/NM/TP-25/2016	<b>Prof. G.U. Kulkarni</b> Director Centre for Nano and Soft Matter Sciences (CeNS) Jalahalli, Bangalore 560 011 (Karnataka)	36

### International collaborative projects=1

Sr. No.	Date of Sanction	DST Reference Number and Project Title	Principal Investigator details	Project duration (months)
1.	08.06.2016	SR/NM/Z-24/2015 Indian beamlines at Photon Factory, KEK, Tsukuba, Japan-Phase II	<b>Prof. Chandrabhas Narayan</b> Chemistry and Physics of Materials Unit Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur, Bangalore-560 064(Karnataka)	60

### Major facilities=1

Sr. No.	Date of Sanction	DST Reference Number and Project Title	Principal Investigator details	Project duration (months)
1.	31.03.2017	SR/NM/NS-1041/2016 National facility for the atomic scale materials characterization using remote operatable atom probe tomography (NFAPT)	<b>Prof. B. S. Murthy</b> Department of Electrical Engineering, IIT-Madras Chennai-600 036 (Tamil Nadu)	36

### National /International conferences supported =3

Sr. No.	Date of Sanction	DST Reference Number and Project Title	Principal Investigator details
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1.	08.06.2016	SR/NM/Z-04/2016 International conference on Nanotechnology for Better Living” (NBL-2016 during May 25-29, 2016.	<b>Dr. Kamal K Kar</b> Department of Mechanical Engineering Indian Institute of Technology- Kanpur Kanpur-208 016 (Uttar Pradesh)
2.	15.12.2016	SR/NM/Z-16/2016 INDO-US International conference on “Nanotechnology: Science and Application in Advanced Materials and Beyond” at Banaras Hindu University during December 19-22, 2016.	<b>Dr. R.N. Rai</b> Department of Chemistry Banaras Hindu University Varanasi (Uttar Pradesh)
3.	15.12.2016	SR/NM/Z-15/2016 3 <sup>rd</sup> International conference on Emerging Electronics (ICEE 2016) to be held during December 27-30, 2016 at IIT- Bombay.	<b>Dr. Saurabh Lodha</b> Department of Electrical Engineering Indian Institute of Technology Bombay Powai, Mumbai-400 076 (Maharashtra)