

Sr. No.	Project Title	Principal Investigator	Duration
1.	Studies on Reservoir Siltation Based on Remote Sensing Method	Dr. M.G.Srinivas, CSRE	1985-1991
2.	A Morphological Image Classification and Analysis System for Remote Sensing Applications	Dr. B.Krishna Mohan, CSRE	1990-1993
3.	Spatial Modelling for Base Metal Mineral Exploration Through Integration of Geological Data Sets	Dr.G.Venkataraman, CSRE	1992-1996
4.	Robust Controller Design for Flexible Three-Axis Stabilized Satellites for Attitude Control and Maneuvering	Prof. A.G.Sreenatha, Dept. of Civil Engg.	1995-1997
5.	Robust control of Space Structures	Prof. Ravi Banavar, Dept.of Electrical Engg.	1995-1997
6.	Artificial Neural Network Based Classification of Remotely Sensed Images	Dr. B.Krishna Mohan, CSRE	1995-1998

7.	Development of Two Stage Split Stirling Cryocooler using Flexure Bearings for on Board Detector Cooling Applications	Prof.K.G.Narayankhedkar, Dept.of Mechanical Engg.	1995-1998
8.	Digital Compression of Remotely Sensed Images	Dr.B.Krishna Mohan, CSRE	1996-1998
9.	Role of Fibre Matrix Interface in Fracture Toughness of Brittle Matrix Composites	Prof.A.Mukherjee Dept. of Civil Engg	1996-1999
10.	Numerical Solution of Axisymmetric Sloshing Motion on Rotating Cylindrical Containers Under Low Gravity Condition	Prof. S. Ghosh Moulic Dept. of Civil Engg	1996-2000
11.	Analysis of Stereo Images From IRS- IC to Generate Digital Elevation Model	Dr. S.S.Gedam, CSRE	1997-2000
12.	SAR Interferometry for Topography and Earth Crust Movement.	Dr .K.S.Rao, CSRE	1998-1999
13.	Nonlinear Model for Rotary Sloss in Fuel Tanks of Launch Vehicles	Prof.A.Ananthakrishnan Dept.of Aerospace Engg.	1998-2000
14.	Linear Matrix Inequalities in the Control of Satellites	Prof.Ravi.N.Banavar Dept. of Electrical	1998-2000
15.	From Low Resolution Images to High Resolution Images.	Prof. U.B.Desai Dept. of Electrical Engg.	1998-2000

16.	Large Angle Time-Optional Spacecraft Attitude Maneuvers	Prof.Sanjay.P.Bhat Dept.of Aerospace Engg.	1998-2001
17.	Thermomechanical Analysis of 3D Composites	Prof.N.K.Naik Dept. of Aerospace Engg.	1998-2001
18.	Rate Constrained Lossy Image Compression Techniques for Remote Sensing Applications.	Dr.B.K.Mohan, CSRE	1999-2000
19.	Monitoring Surface Displacement at Koyna Dam Using Differential SAR Interferometry.	Dr.K.S.Rao, CSRE	1999-2000
20.	A Fuzzy Neuro On-Line Health Monitoring System for Laminated Composites	Prof.A.Mukherjee Dept. of Civil Engg.	1999 -2000
21.	Total-Dose Radiation Hardness Assurance Methodologies for commercial MOS Integrated Circuits for use in space environments – Phase I	Prof.J.Vasi Dept. of Electrical Engg.	1996-2000
22.	Analysis of High Resolution Urban Scenes from IRS-IC/1D Using Computer Vision Techniques	Dr. B.Krishna Mohan, CSRE	1999-2001
23.	Development of Analytical Approach for Detection of Flaws in Composite Materials Using High Frequency Ultrasonic Waves	Prof. Pradipta Banerjee Dept. of Civil Engg.	2000-2003
24.	A Study in the Effect of Atmosphere on DEM Derived from SAR Interferometry	Dr. K.S.Rao, CSRE	2002-2003
25.	Temporal Neural Networks & Contextual Knowledge for Analysis of Remotely Sensed Images.	Dr.B.K.Mohan, CSRE	2001-2003

26.	Matching SAR Images Using MARR-Hildreth Zero-Crossing	Dr. Shyamalee Mukherji, CSRE	2002-2003
27.	Study of the Effect of Containerless and Microgravity Processing on Microstructural Development in Peritectic Alloys	Prof. Satish Vitta Dept. of Metallurgical Engg. & Material Science	2000- 2003
28.	Radiation-Hard CMOS Design-Phase- II	Prof. J.Vasi Dept.of Elelect. Engg.	2001- 2004
29.	Comparison and Fusion of Optical Stereo and INSAR Derived Digital Elevation Model (DEMs)	Dr.Y.S.Rao, CSRE	2002 -2004
30.	Mechanical Performance of 3D Woven Composite Structures	Prof. Naik Dept.of Aerospace Engg.	2001-2004
31.	Control Under Loss of Actuation or Underactuation.	Prof. Ravi.N.Banavar Dept. of Electrical Engg.	2001-2005
32.	Optical Components of Diamond for Space Applications	Prof. D.S.Misra Dept. of Physics	2002- 2005
33.	Active Control of Fuel Slosh Motion	Prof. R.N.Banavar Dept.of Electrical Engg.	2003-2005
34.	Development of Ultra-high Strength Steel for Space Application	Prof.P.K.Rao / Prof.N.B.Ballal Dept. of Metall. Engg. & Material Science	2002- 2005

35.	Development of Low Temperature μ c-Si : H based Flexible solar cells	Prof. R.O.Dusane Dept. of Metall. Engg.& Material Science	2003-2005
36.	Design and Development of a 2-DOF Slosh Rig for Launch vehicle Fuel Tanks	Prof. P.S.Gandhi Dept. of Mechanical Engg.	2003-2005
37.	Spacecraft Attitude Control Using Time Optimal Coning Motion	Prof. Sanjay.P.Bhat Dept.of Aerospace Engg	2003-2005
38.	Design of Launch Vehicle Autopilot by Fast Output Sampling Feedback	Prof. B.Bandyopadhyay Dept. of Electrical Engg.	2002-2006
39.	Bis-homocubane – Derived Polycar- bicyclic Cage Systems: Prospective High Energy, High Density Fules	Prof. Namboothiri Dept. of Chemistry	2003-2006
40.	Approximating Height Data by Tensor – Product Cubic B-Splines Using the Least Squared-error Techniques	Dr.Shyamalee Mukherji, CSRE	2004-2007
41.	Analytical & Numerical Study of Nonlinear Gasdynamic Waves	Prof. V.D.Sharma Dept. of Mathematics	2004-2007
42.	Soil Moisture Mapping using Active and Passive Microwave Remote Sensing Techniques	Dr.Y.S.Rao, CSRE	2005-2007
43.	Sandwich Structures with Composite Inserts : Experimental Studies	Prof. N.K.Naik Dept.of Aerospace Engg	2005-2007
44.	Space Weather Effects on Indian Geostationary Satellites and Their Modelling – Phase II	Prof. D.S.Misra and Dr.(Mrs.) Girija Rajaram Dept. of Physics	2005-2008
45.	Nitro and Azido Polycarbocyclic Caged Systems : “Insensitive High Energy Density (HED) Fuels for Volume Limited Applications”	Prof.I.N.N.Namboothiri Dept. of Chemistry	2006-2008

46.	Liquid Sheet Break-up in the Presence of an Acoustic Field	Prof. Mahesh S. Tirumkudulu Dept. of Chemical	2005-2008
47.	Super-Resolution Restoration of Satellite Images	Prof. S. Chaudhury Dept. of Electrical Engg.	2005-2008
48.	Integrated Watershed Management Modelling using IRS data and Geographic Information System	Prof. T.I.Eldho Dept. of Civil Engg.	2005-2008
49.	Processing, Fracture Toughness and Damage Mechanics Students on Metal Matrix Composites for Space and Launch Vehicle Applications	Prof. R.C.Prasad Dept. of Metallurgical Engg. & Material Science	2005-2009
50.	Development of Magnetic Refrigerant Materials for Cryogenic Applications Related to Space Technology	Prof. K.G.Suresh Dept. of Physics	2005-2008
51.	Experimental Optimization of Confined Air Multiple Jet Impingement on a Smooth and Rough Flat Plate	Prof. S.V. Prabhu Dept. of Mechanical Engg.	2005-2010
52.	Identification and Control of Slosh Phenomenon using Recently Developed 2DOF Actuation Slosh Rig	Prof.P.S.Gandhi Dept. of Mechanical Engg.	2006-2009
53.	Gold plating on Aluminium alloy 2024 and Magnesium alloy A 31 B for Space Application	Prof. S.N.Malhotra Dept. of Metallurgical Engg. & Material Science	2006-2010
54.	Study of Shock-turbulent Boundary Layer Interaction in High-speed air Intake Phase -1	Prof. Krishnendu Sinha Dept. of Aerospace Engg.	2006-2010

55.	Development of Ultra High Strength Steel - Phase II : Mechanisms of Strength Development	Prof. N.B.Ballal Dept. of Metallurgical Engg.& Material Science	2007-2010
56.	Development of a Three Components Accelerometer Balance for use in IITB shock Tunnel	Prof. Viren Menezes Dept. of Aerospace Engg.	2007-2010
57.	Analysis of Hyperspectral Remote Sensing Images and Application to Agriculture	Prof. B.Krishna Mohan, CSRE	2008-2010
58.	Development of Novel Magnetic Nanocomposite films for a Magneto Optical Sensor – Phase – I	Prof. Senthil Kumar Dept. of Physics	2008-2011
59.	Fast Sign-of-Laplacian-based Image Matching	Dr. Shyamalee Mukherji, CSRE	2009-2011
60.	Generation of 3D Microscopic Hydro-phobic Geometries on Metallic Surfaces using Excimer (UV) Lasers	Prof. Suhas Joshi Dept. of Mechanical Engg.	2009-2011
61.	Development of Kerosene based nano-fluid for enhancement of internal flow forced convective heat transfer	Prof. Bhandarkar Dept. of Mechanical Engg.	2009-2011
62.	Transonic Buffeting of Expendable and Reusable Launch Vehicles	Prof. Ashok Joshi Dept of Aerospace Engg.	2009-2011
63.	Investigation of Rarefied Gas Flow Through Closed Ducts as Applied to Outer Space Vehicles and Microchannels	Prof. Agrawal Dept. of Mechanical Engg.	2008-2012

64.	Assessment of turbulence models in hypersonic reacting three-dimensional flow	Prof. Krishndu Sinha Dept. of Aerospace Engg	2008-2012
65.	Decentralized Control of Multi-satellite Formation Flying	Prof. (Ms.) Arpita Sinha System & Control Engg.	2010-2014
66.	Rapid Development and Manufacturing of Machined Aerospace Components	Prof. Karunakaran Dept. of Mechanical Engg.	2010-2014
67.	Assessing Impacts of Global and Local Changes on River Basin Scale Hydrology	Prof. Subimal Ghosh Dept. of Civil Engg.	2010-2015
68.	Estimation of Sea Surface Nitrate-nitrogen from SST and chlorophyll-a- in using OCM and Thermal Sensors : an investigation of new production around Mumbai coast	Prof. A.B.Inamdar, CSRE	2010-2015
69.	Estimation of viscous drag on a scramjet engine in a shock tunnel through wall-heating rate measurements	Prof. Viren Menezes Dept. of Aerospace Engg	2010-2015
70.	Near Real-Time Detection and Assessment of Disbonds in Honeycomb Composite Sandwich Structures using Ultrasonic Guided Waves	Prof. Sauvik Banerjee, Dept. of Civil Engg	2010-2015
71.	Development of Magnetic Nanocomposite Films and A Prototype Magneto-Optical Sensor	Prof. M.Senthil Kumar, Dept. of Physics	2010-2015
72.	On chip Ku/K band quadrature oscillator and PLL	Prof. Jayanta Mukherjee Dept. of Electrical Engg.	2010-2015
73.	Effect of Terrain Relief and Vegetation Cover on Interferometric SAR Derived Digital Elevation Models	Prof. Y.S.Rao, CSRE	2010-2015

74.	Investigation on novel multi-functional materials from the full Heusler family	Prof. K.G.Suresh, Dept. of Physics	2012-2016
75.	Development of a Direct Simulation Monte Carlo Code for High-Speed High Knudsen Number Flows.	Prof. Bhalchandra Puranik, Dept. of Mech. Engg.	2011-2016
76.	Synthesis and Combustion of Methylcubane	Prof. Arindrajit Chowdhury, Dept. of Mech. Engg.	2011-2016
77.	Calibration of Polarimetric SAR systems and Software Development Dr. V.M. Ramanujam, SAC, Ahmedabad	Prof. Y.S.Rao, CSRE	2012-2016
78.	Microstructural Origin of Residual Stresses in AA 7075	Prof. Indradev Samajdar, Dept. of Metall. Engg. & Material Science	2013-2017
79.	High Strain Rate Deformation of Aerospace Al Alloys: Experimental Studies and Development of Constitutive Relationships	Prof. Krishna N. Jonnalagadda Dept. of Mech. Engg	2013-2017
80.	Development of Ohmic Contact and Schottky Contact on Gallium Nitride (GaN) HEMT	Prof. Dipankar Saha, Dept. of Electrical Engg.	2014-2017

81.	Materials for Thermoelectric Power Generation in Space	Prof. Satish Vitta, Dept. of Metall. Engg. & Material Science	2014-2017
82.	Development of Invisible Watermarks For Vector GIS Data Layers	Prof. B.K.Mohan, CSRE	2014-2017
83.	High Gain Agile Antennas & Feed Arrays for Multibeam Antennas	Prof. Jayanta Mukherjee, Dept. of Electrical Engg.	2014-2017
84.	Transfer Learning Driven Rapid Change Detection for Disaster Management	Prof. Surya Durbh, CSRE	2013-2018
85.	Heat flux prediction in shock turbulent boundary layer interaction	Prof. K. Sinha Dept. of Aerospace Engg	2014-2018

86.	Novel route towards fabrication of Borides-carbon Nanotube (CNT) Bulk Composites with Higher Volume Fraction of Uniformly Distributed/dispersed CNTs	Prof. Amartya Mukhopadhyay, Dept. of Metall. Engg.& Material Science	2014-2018
87.	A Comprehensive Mapping of Flood Risk in Changing Climate : An Application to Jagatsinghpur District, Orissa	Prof. Subhankar Karmakar, CESE	2014-2018
88.	Evaluation and mapping of flooding along Mumbai coast due to storms and tides using Numerical Modelling and Geo-Spatial Techniques	Prof. Manasa Ranjan Behera, Dept. of Civil Engg.	2014-2018

89.	Development of Mild and Efficient Nitration Reactions: Synthesis of High Energy Materials Relevant to Rocket Propellants	Prof. Debabrata Maiti, Dept. of Chemical Engg.	2014-2018
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90.	Development of Ohmic Contact and Schottky Contact on Gallium Nitride (GaN) HEMT	Prof. Dipankar Saha	2015-2017
91.	Micromechanics of Textile Composites	Prof. P J. Guruprasad, Dept. of Aerospace Engg.	2015-2018
92.	A self-consistent predictive quantum transport simulator for quantum dot IR photo detectors	Prof. Bhaskaran Muralidharan, Dept. of Electrical Engg.	2015-2018
93.	Simulation of interaction of rocket engine exhaust with lunar dust using DSMC	Prof. Upendra V Bhandarkar	2017-2018
94.	Numerical Simulation of Arc Plasma in Arc-Heated Wind Tunnels	Prof. Kowsik V R Bodi, Dept. of Aerospace Engg	2015-2019
95.	Novel Absorber Materials for Multi-junction Solar PV Applications using Non-toxic and Earth Abundant Element	Prof. Pratibha Sharma, Dept. of Energy Science	2015-2019
96.	Investigation of the effect of surface roughness on the heat transfer rates of a typical reentry capsule	Prof. Viren Menezes	2015-2019
97.	Simulation, design and development of a solid state hydrogen storage system	Prof. Pratibha Sharma	2016-2019
98.	Optimization of Hot Workability and Control of Microstructure in Cu-Cr-Ti-Zr Alloy: An Approach through Thermo-Mechanical Simulation	Dr.MJNV Prasad	2016-2019

99.	Spacecraft orientation manoeuvres under state-action constraints: Phase II	Prof. Debasish Chatterjee	2017-2019
100.	Development of Pulse Doppler Processing Algorithms for MOTR	Prof. Saravanan Vijayakumaran	2017-2019
101.	Sparse Signal Recovery Techniques for Atmospheric Radar	Prof. Sibi raj B. Pillai	2017-2019
102.	Developing of a 3D mechanistic model of a PEM Fuel Cell	Prof. Suneet Singh	2016-2020
103.	Experimental and Numerical Studies on Pulse Detonation Rocket Engines (PDRE)	Prof. Sudarshan Kumar	2017-2021
104.	Visible-NIR Electromagnetic Wave Concentration using Metallic Aperture for Photodetectors	Prof. Sumit Saxena, Dept. of Metall. Engg. & Material Science	2014-2021
105.	POLARIMETRIC SYNTHETIC APERTURE RADAR (SAR) DATA ANALYSIS FOR EARTH OBSERVATION (EO) APPLICATIONS	Prof. Avik Bhattacharya	2017-2021
106.	Experimental Measurements and Theoretical Modelling of Deformed Microstructures and Work Hardening Responses in Selected Aluminum Alloys	Prof. Indradev Samajdar	2017- 2021