

**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
**Office of Industrial Consultancy & Sponsored Research (IC&SR)**

**ISRO – IITM STC Funded Projects List (\*As on 10.1.2023)**

<b>S.No.</b>	<b>Project Title</b>	<b>Principal Investigator (Prof.)</b>	<b>Department</b>	<b>Start Date</b>	<b>Close Date</b>	<b>Project Status*</b>
1	Investigation Into Scientific Super Computing	Pandu Rangan C	Computer Science and Engineering	01/10/1986	30/09/1987	Closed
2	Rheological Characterisation Related To Study Curing Reactions Of ISRO Polymers, HTPB And Epoxies	Subramanian N	Chemical Engineering	01/10/1986	30/11/1989	Closed
3	Studies On Iso Thermal Mixing Of Two Axisymmertic Air Streams	Damodaran K A	Aerospace Engineering	01/10/1986	31/03/1992	Closed
4	Study Of Implementation Of Hologram Interferometry And Speckle To Problem Of ISRO Interest	Sirohi R S	Physics	01/03/1988	31/08/1990	Closed
5	Interference Effects In Spray Combustion	Natarajan R	Mechanical Engineering	01/03/1988	31/03/1992	Closed
6	Automatic Lens Design For Space Applications	Sharma D K	Physics	01/03/1988	28/02/1994	Closed
7	Study Of The Effects Of Ultrasonic Vibrations In The Heat Treatment Of Some Age Hardnable Alloys Of (A) Aluminium (B)Mag	Vasudevan R	Metallurgical and Materials Engineering	01/12/1988	30/06/1993	Closed
8	End Capping Of Isocyanates For RBI-HTPB Binder System	Srinivasan M	Chemistry	01/12/1988	30/11/1992	Closed
9	Migration Of Chemical Ingredients In Solid Rocket Propellant Fuel Grains	Srinivasan M	Chemistry	01/12/1988	30/11/1992	Closed
10	Development Of Expert System For Indian Space Programme	Mahabala H N	Computer Science and Engineering	01/12/1988	30/06/1995	Closed
11	Studies On Supersonic Combustion	Damodaran K A	Aerospace Engineering	01/03/1989	31/05/1993	Closed
12	Computation Of Supersonic Turbulent Base Flows	Thulapurkara E G	Aerospace Engineering	17/10/1990	31/03/1995	Closed
13	Application of Artifical Neural Networks in Remote Sensing	Yegnanarayana B	Computer Science and Engineering	01/06/1991	31/12/1994	Closed
14	Study On Optical Methods Of Thermal Distortion Measurement	Sirohi R S	Physics	01/01/1992	30/12/1994	Closed
15	Theoretical Studies In Composite Airbreathing Propulsion For Space Applications	Gokhale S S	Aerospace Engineering	01/01/1992	30/04/1994	Closed
16	Turbulent Spray Combustion	Natarajan R	Mechanical Engineering	01/04/1992	30/06/1996	Closed
17	Ignition Studies On Solid Propellants	Bhaskaran K A	Mechanical Engineering	17/08/1992	31/07/1996	Closed

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18	Vibrational Relaxation Effects In Gas Dynamics	Bose T K	Aerospace Engineering	24/08/1992	23/08/1994	Closed
19	Augmentation Of Vortex Formation During Discharge Of Liquids From Containers Due To Disturbances Induced On The Liquid	Gowda B H L	Applied Mechanics	24/08/1992	30/04/1996	Closed
20	Burning Rate Prediction In A-P/HTPB Propellants With Burning Rate Modifiers	Krishnan S	Aerospace Engineering	24/08/1992	31/03/1996	Closed
21	Synthesis Of Copolymers Of HTPS And Polyalkenamers By Anchored Metal Catalysts	Sundararajan G	Chemistry	24/08/1992	31/03/1996	Closed
22	Stability Of Thin Liquid Sheets Formed By Swirl Injections	Balakrishnan M	Applied Mechanics	11/04/1993	31/03/1997	Closed
23	Analysis Of Flow Through An Air Augmented Rocket	Ramakrishna M	Aerospace Engineering	20/04/1993	19/04/1996	Closed
24	Nozzle Flow With Secondary Injection. Phase-II	Bose T K	Aerospace Engineering	20/04/1993	19/04/1995	Closed
25	Testing Of Ramjet Combustors	Job Kurian	Aerospace Engineering	20/04/1993	14/03/1995	Closed
26	Hydrogen Combustion In Supersonic Flows	Shet U S P	Mechanical Engineering	01/04/1994	31/03/1996	Closed
27	Development Of A Software For Spacecraft Thermal Analysis Using The Finite Element Method	Seetharamu K N	Mechanical Engineering	01/04/1994	31/03/1997	Closed
28	Preliminary Design Study Of A Hypersonic Airbreathing Flying	Krishnan S	Aerospace Engineering	01/04/1994	31/12/1995	Closed
29	Development Of Solid Fuel And Combustion Chamber System For Hybrid Rocket Motor	Krishnan S	Aerospace Engineering	02/01/1995	01/01/1998	Closed
30	Studies On Plume Flows And Plume Impingement	Job Kurian	Aerospace Engineering	02/01/1995	01/01/1998	Closed
31	Investigation Of Steady And Transient Injection And Mixing In Liquid Rocket Combustors	Natarajan R	Mechanical Engineering	02/01/1995	01/01/1998	Closed
32	Feasibility Studies On Design And Implementation Of Basic Dsp Building Blocks	Srinivasan S	Electrical Engineering	02/01/1995	31/03/1997	Closed
33	Study Of NN-Based Coding Schemes For Compression Of Telemetry Data	Eswaran C	Electrical Engineering	02/01/1995	31/03/1997	Closed
34	Development Of Software For Russian - English Translations	Raman S	Computer Science and Engineering	02/01/1995	31/03/1997	Closed
35	Single Interferogram Evaluation And Wavefront Lifting	Sharma D K	Physics	02/01/1995	31/03/1997	Closed
36	Computation Of Performance Of Cryogenic Rockets Using Detailed Chemical Reactions	Bose T K	Aerospace Engineering	02/01/1995	01/01/1998	Closed
37	Software Development For Content Based Search Of Telemetry Data For Flight Analysis	Raman S	Computer Science and Engineering	02/01/1995	01/01/1996	Closed

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38	Statistical Energy Analysis Prediction of Structural Acoustic Response of Launch Vehicle Structure.	Narayanan S	Applied Mechanics	01/09/1995	31/08/1997	Closed
39	Functional Testing for Launch Vehicle System Software	Raghavan S V	Computer Science and Engineering	01/09/1995	31/08/1997	Closed
40	AE Studies on Aerospace Materials Such As Ti Alloys/Al Alloy	Krishna Murthy R	Mechanical Engineering	01/09/1995	31/08/1997	Closed
41	Application of Electron Beam Welding Techniques on Ti-6Al-4V	Prasad Rao K	Metallurgical and Materials Engineering	01/09/1995	31/08/1998	Closed
42	Expert System Application in Indian Space Programme	Deepak Khemani	Computer Science and Engineering	01/01/1996	31/12/1997	Closed
43	Studies On Machining Of Fibre Reinforced Plastics	Malhotra S K	Aerospace Engineering	01/04/1996	31/03/1998	Closed
44	Studies On The Interaction Between Multiple Supersonic Jets	Sundararajan T	Mechanical Engineering	01/11/1996	30/10/1998	Closed
45	Analysis Of Flow Over An Air-Breathing Aerospace Vehicle Using Distributed Computing	Ramakrishna M	Aerospace Engineering	01/11/1996	31/10/1999	Closed
46	Computation Modeling Of The Three Dimensional Unsteady Steady Viscous Compressible Flows Associated With Cryogenic Steering Engine	Sundararajan T	Mechanical Engineering	01/11/1996	31/10/1998	Closed
47	Development And Testing Of A Piloted Two Dimensional Supersonic Combuster	Job Kurian	Aerospace Engineering	01/11/1996	31/10/1998	Closed
48	Modelling of the combustion process in liquid rocket engines	Bhaskaran K A	Mechanical Engineering	10/02/1999	31/03/2001	Closed
49	Boiling and two-phase flow studies of cryogenic fluids	Balakrishnan A R	Chemical Engineering	10/02/1999	31/10/2004	Closed
50	Study of transient thermal response of a cryogenic rocket turbopump assembly	Srinivasa Murthy S	Mechanical Engineering	10/02/1999	31/10/2001	Closed
51	Studies on stratification of cryogenic liquid propellants	Venkatathnam G	Mechanical Engineering	10/02/1999	31/10/2001	Closed
52	Discrete vortex simulation of oscillatory flow-structure interaction in segmented large solid rocket motors	Sujith R I	Aerospace Engineering	07/05/1999	31/08/2001	Closed
53	Development of software for spacecraft thermal analysis using finite element method - phase 2	Sundararajan T	Mechanical Engineering	07/05/1999	06/05/2000	Closed
54	New ARQ Protocols using Concatinated RD-Codes	Vasanth W B	Mathematics	10/05/1999	09/05/2000	Closed
55	Development of a general purpose computer program for estimation of radiant heat flux in solid rocket motor	Venkateshan S P	Mechanical Engineering	02/08/1999	31/01/2002	Closed

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56	Design and analysis of hybrid pressure vessel	Sivaprasad N	Mechanical Engineering	28/03/2000	27/03/2002	Closed
57	SURFACE TENSION-DRIVEN GAS-LIQUID FLOWS UNDER MICROGRAVITY CONDITIONS: MEASUREMENTS AND CFD PREDICTIONS	Ramesh K	Chemical Engineering	16/08/2000	15/08/2003	Closed
58	Investigations for onboard autonomy of spacecraft	Deepak Khemani	Computer Science and Engineering	16/05/2001	31/10/2004	Closed
59	Silver doped indium oxide thin films for space application	Subrahmanyam A	Physics	16/05/2001	31/10/2004	Closed
60	Vibro-Acoustic response of launch vehicle structures using statistical energy analysis-experimental studies and structural fuzzy	Narayanan S	Applied Mechanics	16/05/2001	31/10/2004	Closed
61	Development of advanced phase unwrapping algorithms in photomechanics	Ramesh K	Applied Mechanics	16/05/2001	31/07/2003	Closed
62	Investigations for ground based autonomy	Deepak Khemani	Computer Science and Engineering	16/05/2001	31/10/2004	Closed
63	Development of HDL cores for FPGA implementation of demodulator for satellite data	Srinivasan S	Electrical Engineering	16/05/2001	31/12/2003	Closed
64	Development of an advanced ultrasonic NDE method for imaging of tight cracks in thin shells	Krishnan Balasubramanian	Mechanical Engineering	16/05/2001	31/08/2003	Closed
65	Pre-and post-deformation studies on superplastically formed Ti-6Al-4V	Bhattacharya S S	Metallurgical and Materials Engineering	16/05/2001	31/12/2004	Closed
66	Expert systems for welding of aero-space alloys	Prasad Rao K	Metallurgical and Materials Engineering	16/05/2001	30/09/2003	Closed
67	Representation of composite materials in solid modeling for finite element analysis through PATRAN	Prasanna Kumar T S	Metallurgical and Materials Engineering	16/05/2001	15/05/2003	Closed
68	Nanocomposites as light sensors	Pradeep T	Chemistry	16/05/2001	15/01/2004	Closed
69	Laser induced fluorescence for spray diagnostics	Sujith R I	Aerospace Engineering	27/02/2002	30/11/2003	Closed
70	Development of a generalized radiative transfer model including scattering for retrieval of geophysical parameters from microwave remote sensing observation from satellites	Venkateshan S P	Mechanical Engineering	27/02/2002	25/07/2004	Closed
71	Transient natural convection and stratification in cryogenic propellant Tanks	Prasad B V S S S	Mechanical Engineering	27/02/2002	30/04/2005	Closed
72	Development of NDE techniques for bond interface evaluation in rocket motor	Krishnan Balasubramanian	Mechanical Engineering	27/02/2002	30/06/2006	Closed
73	Modelling propellant slurry flow during the casting of a solid rocket motor	Sundararajan T	Mechanical Engineering	04/03/2002	31/03/2005	Closed

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74	Development of quality assured process technology for ITO coatings on aluminized kapton films for space applications	Subrahmanyam A	Physics	08/04/2002	31/03/2003	Closed
75	Nonlinear steepening of acoustic waves into shock waves in variable area ducts in the presence of entropy gradients	Sujith R I	Aerospace Engineering	04/09/2002	31/10/2004	Closed
76	Improvement of mechanical properties of 2219 Al-alloy welds	Prasad Rao K	Metallurgical and Materials Engineering	01/10/2002	31/03/2006	Closed
77	Development of a mixed refrigerant cryocooler for electronic cooling	Venkatathnam G	Mechanical Engineering	03/03/2003	30/09/2006	Closed
78	Digital photoelasticity using single shot data acquisition	Ramesh K	Applied Mechanics	03/03/2003	31/07/2005	Closed
79	Flow boiling heat transfer inside narrow tubes	Balakrishnan A R	Chemical Engineering	03/03/2003	30/11/2007	Closed
80	Knowledge discovery system for spatial databases and geographic information system	Sundar S	Mathematics	03/03/2003	30/09/2006	Closed
81	Hardware implementation of video imaging system for launch vehicles	Srinivasan S	Electrical Engineering	01/10/2003	31/12/2005	Closed
82	Software engineering and parallelization of on-board software for spacecraft	Narayanaswamy N S	Computer Science and Engineering	01/10/2003	31/10/2004	Closed
83	Development of a Generalized Radiative Transfer Model including Polarization and Robust Retrieval Algorithms to Obtain Geophysical Parameters Over Sea and Land Surfaces Using Microwave Remote Sensing Data	Venkateshan S P	Mechanical Engineering	09/01/2004	31/07/2007	Closed
84	Development of NDE Techniques for the evaluation of the bond integrity of honeycomb structures	Krishnan Balasubramanian	Mechanical Engineering	04/03/2004	30/06/2006	Closed
85	Hardware-in-Loop Design, Fabrication and Testing of a real-time closed-loop Micropump	Srinivasa Y G	Mechanical Engineering	17/05/2004	31/03/2007	Closed
86	Investigation of High-Frequency Ultrasound for Destratification of Cryogenic Liquids Stored in Insulated Containers	Nagarajan R	Chemical Engineering	01/09/2004	31/12/2006	Closed
87	Implementation of Phase Shifting Techniques for Speckle Fringe Analysis	Krishnamohan N	Physics	01/09/2004	31/10/2006	Closed
88	Buckling Control of Nozzle Shell Using PZT	Lakshmana Rao C	Applied Mechanics	16/09/2004	31/07/2008	Closed
89	Control of Liquid Spray Using Hartmann Whistle	Srinivasan K	Mechanical Engineering	16/09/2004	30/09/2009	Closed

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90	Vanadium Oxide Thin Films for Temperature Sensor and Thermal Control Applications : Exploratory Studies	Subrahmanyam A	Physics	28/09/2004	30/09/2007	Closed
91	A Numerical Study of Multiple Jets with Particulate Suspension	Usha R	Mathematics	01/02/2005	25/02/2008	Closed
92	Stress Separation in Digital Photoelasticity	Ramesh K	Applied Mechanics	11/03/2005	31/08/2007	Closed
93	Optimization of Water Injection System for Noise Reduction During Launch Vehicle Lift-Off	Sundararajan T	Mechanical Engineering	11/03/2005	31/05/2008	Closed
94	Parameter Estimation and Inverse Solution of Non-Linear Heat Conducting Problems	Prasanna Kumar T S	Metallurgical and Materials Engineering	11/03/2005	10/03/2008	Closed
95	Development of an Inspection Technique for Welded Titanium Alloy Pressure Vessel Shells	Krishnan Balasubramanian	Mechanical Engineering	11/03/2005	30/09/2007	Closed
96	Stability Analysis of Large Solid Rocket Motors	Sujith R I	Aerospace Engineering	09/09/2005	08/09/2008	Closed
97	Development of High Strength Ultra Fine Grained Al-alloys Through Cryo Rolling	Subramanya Sarma V	Metallurgical and Materials Engineering	09/09/2005	31/10/2007	Closed
98	Microlidar Studies on Tropospheric Aerosols & Clouds	Subramaniamurthy V	Physics	09/09/2005	08/03/2009	Closed
99	Modeling of Hydrogen Combustion in a Strut Based Scram Jet Combustor and Study of Cavity-Assisted Mixing/Combustion	Sundararajan T	Mechanical Engineering	09/09/2005	28/02/2008	Closed
100	Development of an Efficient Global SWE Model Coupled with a Short Wave Model	Murali K	Ocean Engineering	09/09/2005	30/06/2009	Closed
101	Development of MEMS based Micro Valves	Singaperumal M	Mechanical Engineering	12/09/2005	30/09/2009	Closed
102	Design of a Knowledge Management System Architecture for ISRO	Ganesh L S	Management Studies	12/09/2005	30/06/2008	Closed
103	Impedance Tube Technique for the Measurement of Driving provided by Solid Propellants During Combustion Instabilities	Chakravarthy S R	Aerospace Engineering	21/10/2005	20/10/2008	Closed
104	Exploratory Studies on a Cavitation-Induced Ignition System for Non-Hypergolic Liquid Propellant Rockets	Dhiman Chatterjee	Mechanical Engineering	03/11/2005	30/04/2008	Closed
105	Investigation of Microstructure and Mechanical Properties of Beta Titanium Alloy (15-3) Weldments	Gandham Phanikumar	Metallurgical and Materials Engineering	09/12/2005	06/11/2009	Closed
106	Software Libraries for Planners and Schedulers	Narayanaswamy N S	Computer Science and Engineering	13/01/2006	31/07/2008	Closed
107	Improving Reactant Distribution in a PEMFC	Prathap Haridoss	Metallurgical and Materials Engineering	21/03/2006	20/03/2008	Closed
108	Development of an online weld defect characterization using thermal imaging techniques	Krishnan Balasubramanian	Mechanical Engineering	14/03/2007	30/06/2010	Closed

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109	Acoustic heating effects in hartmann whistle	Srinivasan K	Mechanical Engineering	14/03/2007	31/01/2011	Closed
110	Isoclinic unwrapping and colour adaptation in digital photoelasticity	Ramesh K	Applied Mechanics	14/03/2007	31/12/2009	Closed
111	De-stratification of cryogenic fuels in insulated storage containers using power ultrasound	Nagarajan R	Chemical Engineering	20/03/2007	30/06/2009	Closed
112	Turbulent mixing of multiple round jet	Panchapakesan N R	Aerospace Engineering	01/04/2007	30/08/2011	Closed
113	Implementation of time average phase modulation technique in ESPI for vibration fringe analysis	Krishnamohan N	Physics	01/06/2007	31/07/2009	Closed
114	Numerical studies on effect of coke deposition on heat transfer in regenerative cooling of kerosene based liquid rocket engines	Amit Kumar	Aerospace Engineering	14/11/2007	11/05/2010	Closed
115	Technology development of proportional solenoid valve for space applications	Asokan Thondiyath	Engineering Design	01/02/2008	30/09/2012	Closed
116	Measurement of electrical species for space exploration applications by using laser-induced breakdown spectroscopy technique	Nilesh Jayantilal Vasa	Engineering Design	28/03/2008	27/03/2011	Closed
117	Study of composite laminates under biaxial stress field	Velmurugan R	Aerospace Engineering	28/05/2008	30/11/2010	Closed
118	Experimental studies on high speed air intakes	Muruganandam T M	Aerospace Engineering	28/05/2008	30/09/2012	Closed
119	Numerical computation studies on air breathing propulsion system	Sundararajan T	Mechanical Engineering	28/05/2008	30/04/2011	Closed
120	Enhancement of atomization in effervescent atomizers using ultrasonics	Nagarajan R	Chemical Engineering	28/05/2008	30/11/2009	Closed
121	Numerical predictions of evaporation rate constants of kerosene droplets at elevated pressures and temperatures in high pressure semi-cryogenic rockets	Raghavan V	Mechanical Engineering	22/10/2008	21/10/2010	Closed
122	Stress-state dependent ductile fracture model	Anuradha Banerjee	Applied Mechanics	22/10/2008	30/07/2011	Closed
123	Processing of preceramic polymers in the quaternary Si-B-C-N system for ultra-high temperature applications beyond 2000°C	Ravikumar N V	Metallurgical and Materials Engineering	22/10/2008	31/08/2011	Closed
124	Friction stir spot welding of aluminum alloy 2014	Durga Janaki Ram Gabbita	Metallurgical and Materials Engineering	05/03/2009	04/07/2011	Closed
125	Development of mixed refrigerant cascade refrigerators operating with non-flammable refrigerants for cooling space simulation chambers	Venkatathnam G	Mechanical Engineering	18/06/2009	31/12/2013	Closed

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126	Detection of non-linearities in atmospheric weather data and statistical forecasting using multivariate techniques	Arun K Tangirala	Physics	18/09/2009	31/05/2012	Closed
127	Experimental studies on non-linear effects of piezoelectric materials	Arockiarajan A	Applied Mechanics	23/09/2009	22/09/2011	Closed
128	Detection and classification of algal blooms in Indian coastal waters using Ocean Colour Monitor (OCM) Data	Shanmugam P	Ocean Engineering	09/11/2009	31/12/2012	Closed
129	Buckling control of cylindrical/conical shells for aerospace applications using PZT actuators	Lakshmana Rao C	Applied Mechanics	18/03/2010	31/03/2015	Closed
130	Estimation of anisotropic conductivity of plates using the inverse heat transfer method	Venkateshan S P	Mechanical Engineering	26/03/2010	31/03/2013	Closed
131	Phased array inspection of Friction Stir Welded (FSW) components	Krishnan Balasubramanian	Mechanical Engineering	27/10/2010	26/10/2012	Closed
132	CFD prediction of vortex formation and suppression during the draining of liquid from toroidal tanks	Prasad Patnaik B S V	Applied Mechanics	09/11/2010	08/05/2013	Closed
133	Synthesis and multi-scale property evaluation of multi-walled carbon nanotube reinforced aluminium composites having improved dispersion	Srinivasa Rao Bakshi	Metallurgical and Materials Engineering	02/06/2011	31/03/2014	Closed
134	Non-precious metal catalyst for oxygen reduction reaction in Polymer Electrolyte Membrane Fuel Cells (PEMFC) with improved durability and activity	Kothandaraman Ramanujam	Chemistry	26/09/2011	25/09/2014	Closed
135	Modeling, Analysis, Design and Implementation of 2KW Battery Discharge Regulator	Lakshminarasamma N	Electrical Engineering	11/10/2011	10/04/2014	Closed
136	Near nozzle spray structure in semi-cryogenic sprays	Mahesh Panchagnula	Applied Mechanics	11/10/2011	10/10/2014	Closed
137	Large eddy simulation of multiple round jets	Panchapakesan N R	Aerospace Engineering	20/10/2011	18/04/2015	Closed
138	Characterization of metallic materials for biaxial loading	Velmurugan R	Aerospace Engineering	16/11/2011	31/03/2015	Closed
139	Computation of strain and curvature from digital image correlation data	Sankara J Subramanian	Engineering Design	17/10/2012	31/01/2015	Closed
140	Rare-earth silicate environmental barrier coatings for SiC-based high temperature materials	Kamaraj M	Metallurgical and Materials Engineering	18/03/2013	31/03/2017	Closed
141	Development of an experimental methodology for the estimation of anisotropic conductivity of plates using the inverse heat transfer method	Venkateshan S P	Mechanical Engineering	18/03/2013	29/02/2016	Closed

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142	Numerical simulation of suppression of residual flames and cooling of solid rocket motors using water injection	Raghavan V	Mechanical Engineering	18/03/2013	29/06/2015	Closed
143	Experimental studies on high speed air intakes with moving cowl	Muruganandam T M	Aerospace Engineering	18/03/2013	31/03/2016	Closed
144	Development of Bi-metallic joining technique and realization of Bi-metallic adaptors for launch vehicles	Sushanta Kumar Panigrahi	Mechanical Engineering	18/03/2013	31/05/2016	Closed
145	Development of Electrospray Based MEMS Microthruster	Ashis Kumar Sen	Mechanical Engineering	23/10/2013	30/06/2017	Closed
146	The high energy particle detector project	Harishankar Ramachandran	Electrical Engineering	29/10/2013	31/03/2015	Closed
147	Synthesis and thermo-mechanical processing effects on the microstructure and mechanical properties of Ti-Al-Ni-Cr-Co-Fe based multi-component/high-entropy alloys	Srinivasa Rao Bakshi	Metallurgical and Materials Engineering	31/10/2013	31/08/2017	Closed
148	Development of atmospheric correction algorithm for Ocean Colour Monitor (OCM2) for optically complex oceanic waters	Shanmugam P	Ocean Engineering	06/02/2014	05/08/2017	Closed
149	Processing and characterization of advanced metallic thermal protection materials for reusable launch vehicle applications	Murty B S	Metallurgical and Materials Engineering	28/03/2014	30/06/2017	Closed
150	Wide-band frequency selective surfaces (FSS) for Quasi optical network	Kavitha Arunachalam	Engineering Design	28/03/2014	31/03/2017	Closed
151	Development of a laser assisted scribing technique to generate strips of a parabolic antenna	Nilesh Jayantilal Vasa	Engineering Design	28/03/2014	31/12/2016	Closed
152	Optimization of hot workability and control of microstructure in NI-base superalloys used in rocket engine applications	Ravi Sankar K	Metallurgical and Materials Engineering	05/09/2014	31/12/2016	Closed
153	Contact stress parameter evaluation using digital photoelasticity	Ramesh K	Applied Mechanics	05/09/2014	31/07/2017	Closed
154	Design, Fabrication and testing of programmable high voltage power supply for space applications	Lakshminarasamma N	Electrical Engineering	23/02/2015	31/08/2018	Closed
155	Numerical Modeling of Arcjet	Amit Kumar	Aerospace Engineering	23/02/2015	22/08/2017	Closed
156	Mixed mode translaminar fracture of fibre reinforced composites- Experiments and Simulations	Anuradha Banerjee	Applied Mechanics	23/02/2015	30/06/2018	Closed
157	Simulation of mixing layer in stratified medium	Sameen A	Aerospace Engineering	23/02/2015	22/02/2019	Closed

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158	Spatial disaggregation and inverse modelling to quantify field level irrigation water distribution and efficiency across a command area using an integrated thermal remote sensing and crop growth modelling approach	Balaji Narasimhan	Civil Engineering	23/02/2015	30/06/2019	Closed
159	Development of the multiscale modelling framework for the fracture studies of textile composites	Shantanu Shashikant Mulay	Aerospace Engineering	23/02/2015	30/06/2018	Closed
160	Flow characterization studies and performance analysis of an annular aerospike nozzle	Rajesh G	Aerospace Engineering	23/02/2015	22/02/2018	Closed
161	Hybrid rockets for sounding rocket applications using hydrogen peroxide as oxidizer	Ramakrishna P A	Aerospace Engineering	23/02/2015	31/01/2019	Closed
162	Identification of mesoscale eddies in the Bay of Bengal using Lagrangian coherent Structures	Manikandan M S	Aerospace Engineering	09/03/2015	30/09/2019	Closed
163	16 bit 5MS/s analog to digital converter	Nagendra Krishnapura	Electrical Engineering	12/10/2015	30/09/2022	Closed
164	Experimental investigation of ageing related issues in composite solid propellants	Murthy H S N	Aerospace Engineering	29/02/2016	31/01/2022	Closed
165	Effect of thermo-mechanical processing on the microstructure, texture and anisotropy evolution in various Ti alloy being used in various launch vehicle programmes of ISRO	Kanjarla Anand Krishna	Metallurgical and Materials Engineering	01/03/2016	28/02/2019	Closed
166	Condition monitoring of aerospace structural materials adopting multi-fusion sensor system	Velmurugan R	Aerospace Engineering	01/03/2016	30/08/2018	Closed
167	CFD studies on jet deflector duct of future launch pad for advanced launch vehicles of ISRO	Sundararajan T	Mechanical Engineering	01/03/2016	30/06/2018	Closed
168	Weld repair of XH43 and XH67 superalloy castings	Durga Janaki Ram Gabbita	Metallurgical and Materials Engineering	07/06/2016	30/09/2018	Closed
169	Lattice Boltzmann Simulations of Sloshing Dynamics	Sumesh P Thampi	Chemical Engineering	21/10/2016	30/09/2020	Closed
170	Probing Interstellar and Atmospheric Anions Through Velocity Map Imaging	Aravind G	Physics	14/02/2017	31/03/2021	Closed
171	Design and Development of Five Axis Magnetic Field Assisted Fluid Jet Polishing Machine for Nano-Surface Generation on Optical, Metallic, CFRP Composites & Hybrid Materials(with Composite Backup Structure)	Arunachalam N	Mechanical Engineering	14/02/2017	28/02/2021	Closed
172	Heat and Mass Transfer Across Liquid-vapor Interface in a Pressurized Cryogenic Tank with and without Sloshing	Shyama Prasad Das	Mechanical Engineering	14/02/2017	30/04/2021	Closed
173	3D Numerical Modeling of Arcjet Thrusters	Amit Kumar	Aerospace Engineering	31/10/2017	31/01/2020	Closed

S.No.	Project Title	Principal Investigator (Prof.)	Department	Start Date	Close Date	Project Status*
174	Development and Characterization of 3D Graphene foam as a Thermal Insulator for Space Applications	Manu Jaiswal	Physics	31/10/2017	30/06/2020	Closed
175	Assessment of Sea Surface Solar Radiation and pCO <sub>2</sub> Fluxes in Coastal and Estuarine Waters using OCM-2/OCM-2 Data	Shanmugam P	Ocean Engineering	31/10/2017	31/03/2021	Closed
176	Development of Silicon BiCMOS Technology for RF Applications	Anjan Chakravorthy	Electrical Engineering	31/10/2017	31/03/2022	Closed
177	Development of Rotocraft UAV for Operation in Martian Atmosphere	Ranjith Mohan	Aerospace Engineering	31/10/2017	31/03/2022	Closed
178	Development of paraffin based Gas Generator System for Hot Flow Scale Model Tests Simulating Clustered Semi Cryo Engines	Ramakrishna P A	Aerospace Engineering	22/03/2018	31/03/2021	Closed
179	Development of large area (100cm <sup>2</sup> ) organic-inorganic hybrid perovskite solar cells	Aravind Kumar Chandiran	Chemical Engineering	22/03/2018	31/01/2022	Closed
180	Development of Zr,La,B and C Containing Single Source Proceramic Polymer for High Temperature Applications	Ravikumar N V	Metallurgical and Materials Engineering	01/11/2018	31/10/2020	Closed
181	Evaluation of Pyrolysis Behavior, Pyrolysis Kinetics and Product Analysis of Thermal Protection System (TPS) Materials	Vinu R	Chemical Engineering	01/11/2018	31/12/2020	Closed
182	A Non-linear Viscoelastic Constitutive Model for Solid Propellants and Studies on Effects of Voids	Parag Ravindran	Mechanical Engineering	01/11/2018	30/04/2021	Closed
183	Design and Development of an Advanced Carbon Fiber 3D Printable Printer	Arunachalam N	Mechanical Engineering	01/11/2018	31/03/2022	Closed
184	Design and Development of SPDT RF MEMS Switches for Ku Band Applications	Deleep R Nair	Electrical Engineering	01/11/2018	31/03/2023	Ongoing
185	Energy - Efficient & Wide - range 15Mb/s-1.5Gb/s SERDES	Saurabh Saxena	Electrical Engineering	01/11/2018	31/03/2023	Ongoing
186	Numerical Study of Performance of Inducer and Pump used in Cryogenic Engines under Cavitating and Non-cavitating Conditions	Vengadesan S	Applied Mechanics	01/11/2018	31/01/2022	Closed
187	Development of a Mixed Refrigerant J-T Cryocooler	Venkatarathnam G	Mechanical Engineering	01/11/2018	31/03/2022	Closed
188	Experimental Study of Combustion in Space Environment	Amit Kumar	Aerospace Engineering	01/05/2019	30/10/2021	Closed

S.No.	Project Title	Principal Investigator (Prof.)	Department	Start Date	Close Date	Project Status*
189	Estimation of Thermal Load Due to Mixing in 10T Vertical Mixer	Arul Prakash K	Applied Mechanics	01/05/2019	28/02/2023	Ongoing
190	Relation between Pathogenic Bio-aerosol and Biotic Stress of Crop - A Case Study for Yellow Rust Fungus of Wheat	Sachin S Gunthe	Civil Engineering	01/05/2019	31/03/2022	Closed
191	Miniaturized Wideband Analog Phase Modulator using Phase Locked Loop	Saurabh Saxena	Electrical Engineering	01/05/2019	28/02/2023	Ongoing
192	Feasibility studies and preliminary aerodynamic design of autorotation based venus descent system	Ranjith Mohan	Aerospace Engineering	01/11/2019	31/03/2022	Closed
193	Development of Solid Propellant based low temperature gas generator for inflatable aerodynamic decelerator	Ramakrishna P A	Aerospace Engineering	17/03/2020	31/07/2022	Closed
194	Meso-microporous core-shell carbon-based materials and electroactive diluent for long cycle life and high energy density Li- S batteries	Kothandaraman Ramanujam	Chemistry	29/10/2020	28/10/2022	Closed
195	A Lagrangian Framework to Define the Spatio-temporal Requirements of Measurement of Ocean Surface Currents from Space-Borne Sensors	Manikandan M S	Aerospace Engineering	02/11/2020	01/05/2023	Ongoing
196	Polymer Derived Zr-B-C based Rare Earth Metal Containing High Temperature Resistant Coatings For Space Applications	Ravikumar N V	Metallurgical and Materials Engineering	02/11/2020	31/03/2023	Ongoing
197	Modelling of process parameters for 3D printing	Gandham Phanikumar	Metallurgical and Materials Engineering	23/07/2021	22/07/2022	Closed
198	Smoke Characterization of Flaming and Smouldering Materials In Micro-Gravity	Muruganandam T M	Aerospace Engineering	23/07/2021	31/12/2022	Closed
199	Analysis of Passive Recirculation System for LOX Feed Line of Semicryo Stage	Raghavan V	Mechanical Engineering	23/07/2021	22/10/2022	Closed
200	Experimental Study of Flame Spread Under Convection In Micro-Gravity	Amit Kumar	Aerospace Engineering	23/07/2021	30/06/2023	Ongoing
201	High Performance Computing (HPC) Architecture For Autonomous Space Systems	Kamakoti V	Computer Science and Engineering	23/07/2021	22/07/2023	Ongoing
202	Development Of Boron Based Ternary MAB Phase Material For Thermal Control In Spacecrafts	Kamaraj M	Metallurgical and Materials Engineering	23/07/2021	22/07/2023	Ongoing
203	Experimental and Computational Study of Microstructure evolution, Residual Stresses and Mechanical Properties in Laser Additive Manufacturing of Ti Alloys for Launch Vehicles	Kanjarla Anand Krishna	Metallurgical and Materials Engineering	23/07/2021	22/07/2023	Ongoing

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204	Synthesis and Characterization of Hexagonal Boron Nitride Ceramic Aerogels as Thermal Insulation Layer for Future Space Missions	Manu Jaiswal	Physics	23/07/2021	30/06/2023	Ongoing
205	Wind and Sea-swell Spectral Data Assimilation to Improve Wind and Wave Prediction using Satellite Data	Sannasiraj S A	Ocean Engineering	23/07/2021	22/12/2023	Ongoing
206	Investigations on the effect of back pressure fluctuations on shock boundary layer interactions in isolator	Sriram Rengarajan	Aerospace Engineering	23/07/2021	22/07/2023	Ongoing
207	Computational Modeling of Combustion Instability in an Oxidizer-rich Staged Cycle using LOx and Kerosene	Varunkumar S	Mechanical Engineering	23/07/2021	22/01/2023	Ongoing
208	Aerosol-Cloud-Precipitation Interaction: A Missing Link Between Cloud Droplet To Rain Droplet Formation	Sujith R I	Aerospace Engineering	23/07/2021	22/07/2024	Ongoing
209	Thermo-mechanical response of polymer matrix composites under high heating rates	Shantanu Shashikant Mulay	Aerospace Engineering	07/12/2021	06/01/2024	Ongoing
210	Physics-based AI-ML models for predicting crop yield at different space-time scales	Arun K Tangirala	Chemical Engineering	06/01/2022	05/07/2024	Ongoing
211	Optical characterization and detection of micro/macro plastics in oceanic waters using Volume Scattering Function experiments and remote sensing techniques	Shanmugam P	Ocean Engineering	04/07/2022	03/07/2024	Ongoing
212	Uncertainty Quantification of Turbulence Models through eigenspace perturbations of Reynolds stresses	Nagabhushana Rao Vadlamani	Aerospace Engineering	04/07/2022	03/07/2024	Ongoing
213	Development of low temperature gas generator for filling CMUS inflatable floats	Ramakrishna	Aerospace Engineering	09/01/2023	09/01/2024	Ongoing
214	Optimization of the post-build heat treatment schedule to achieve balanced high-temperature mechanical properties while mitigating mechanical anisotropy in additively manufactured Inconel 718	Ravi Sankar Kottada	Metallurgical and Materials Engineering	09/01/2023	08/01/2025	Ongoing
215	Dissociative Ionization and photodetachment of interstellar molecules and chiral anions	Aravind.G	Physics	09/01/2023	08/06/2025	Ongoing
216	Development of therapeutic strategies to mitigate oxidative stress and cytoskeletal damage in astronauts for the Gaganyaan space mission	Swathi Sudhakar	Applied Mechanics	09/01/2023	08/01/2025	Ongoing

<b>S.No.</b>	<b>Project Title</b>	<b>Principal Investigator (Prof.)</b>	<b>Department</b>	<b>Start Date</b>	<b>Close Date</b>	<b>Project Status*</b>
217	Extension of ISRO Flow Solver PRAVAHA to Flows Involving Chemical and Vibrational Non equilibrium	Shankar Ghosh	Aerospace Engineering	09/01/2023	09/01/2024	Ongoing