

# SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT



**NEWSLETTER**  
April 2022 to March 2023



## Research and Consultancy



Office of the Dean(R&C)  
old computer Dept.



0261-2201134/35



[dean\\_rnc@svnit.ac.in](mailto:dean_rnc@svnit.ac.in)

# TABLE OF CONTENTS



- 01 DIRECTOR'S MESSAGE
- 02 DEAN(R&C) MESSAGE
- 03 ABOUT RESEARCH & CONSULTANCY
- 04 OUR VISION AND MISSION
- 05 OUR CORE TEAM
- 06 SPONSORED RESEARCH PROJECTS
- 07 SEED MONEY/RESEARCH GRANT
- 08 CONSULTANCY PROJECTS
- 09 PATENT
- 10 MOU





## **DIRECTOR'S MESSAGE**

### **Prof. (Dr.) Anupam Shukla**

I am happy to introduce you to this publication of the Research and Consultancy (R&C) newsletter by the Research & Consultancy Cell of SVNIT, Surat. The Research & Consultancy Cell at SVNIT is the central hub for all research activities conducted by the various departments of the institute.

This newsletter aims to offer potential future faculty and other stakeholders, a comprehensive insight into the Institute's research and development initiatives, showcasing its commitment to becoming a renowned institution of academic excellence worldwide. This would also be a great way to highlight the achievements of our faculty members who have made significant contributions, while also providing inspiration to continue promoting innovative, progressive, and socially meaningful research.

In this newsletter, we highlight our outstanding research capabilities and the significant impact we have had over the years. Thus, this publication is highly valuable to both the Institute and the industry and research laboratories. It offers essential information on the research capabilities of the Institute, allowing them to efficiently utilise the research services provided.

I hereby express my appreciation to all the faculty members for their efforts in sharing the research activities of SVNIT with all the stakeholders through this initiative. I hope that the research findings of SVNIT reach a wide audience, including academic institutions, research institutions, and industries both in India and abroad. I would like to extend my congratulations to the Dean (R&C) and his team for their efforts in creating this document. I am eager to see future updates of this publication.



## ABOUT .....

The Office of the Dean R&C has been set up with an objective to extend support and to encourage the faculty to accelerate the research activities in the institute. The Office of the Dean R&C offers administrative support and guidance to all Research & Consultancy activities in the institute and maintains complete records of Sponsored Research Projects and Consultancy Assignments by implementation of related guidelines set by the institute. To facilitate and coordinate all research and development activities is the primary aim of the office. The office renders the assistance to ASHINE activities for start-up/incubation and documenting outside world activities through signing MOU's. To facilitate faculty members for their efforts in enhancing research goals and solving societal issues in the form of consultancies for processing documents, keeping data record and further pushing for financial settlement of grant/consultancy amount. Moreover this office aims to establish IPR Cell for converting research innovations into patents and thereby creating mechanism for increasing IRG of the institute.

# MESSAGE

---

It indeed gives me a great pleasure to be writing this message for the Annual Newsletter of the Dean (Research & Consultancy) at the institute. At an outset, I must thank all the existing office bearers at this office viz. Dr Piyush Patel, Associate Dean (R&C)-IPR, Dr Namrata Jariwala, Associate Dean (R&C)-CRP, and Dr Manish Rathod, Associate Dean (R&C)-SRP; without whose dedicated efforts and complete devotion, this office would not have functioned the way it has. I must also acknowledge and wholeheartedly thank Associate Deans, during the period the statistics in this newsletter reflect viz. Dr K D Yadav and Dr H B Mehta, who pioneered the development and streamlining of, a number of different administrative processes at this office.



**Prof. D C Jinwala**

**Dean (Research & Consultancy)**

**E Mail Id:** dean\_rnc@svnit.ac.in

**Contact No.** 0261-2201135

It is said that the diagrams i.e. pictures speak better than the words. It is also equally true -from an Engineer's perspective - that the statistics speak better than any subjective elaborate description. The painstakingly compiled statistics in this letter, aptly justify this statement. The hard-work and the dedication of the SVNIT faculty members, not to undermine their academic excellence, is seen in the numbers presented under every head in this letter. Needless to say and very common-sensical to understand, the high volume of the Consultancy assignments, the large number and the quality of the sponsored research projects, the patents and the design registrations earned - all are testimony to the overall brilliance of the faculty members. It is only hoped that the growth rate in all these parameters turns out to be exponential and you all would be able to witness a much higher number in the next edition of this letter.

I must thank all my administrative staff at the R&C section and the Accounts staff supporting R&C activities at this office to help bring out these numbers painstakingly. I would also like to express my thanks to the institute administration under the Registrar Dr Pramod Mathur for their support to the R&C activities.

And last but not the least, this is also to express my sincere gratitude to the Director, Professor (Dr.) Anupam Shukla for guiding, supervising and often coercing us all to put in the best of our efforts for the overall betterment of the R&C activities and thereby that of the institute.

# CURRENT CORE TEAM

## OUT-GOING ASSOCIATE DEAN DURING CURRENT YEAR

**Dr. K. D. Yadav**

Asso.Professor, Department of  
Civil Engineering

**Dr. H. B. Mehta**

Asso.Professor, Department of  
Mechanical Engineering

---



## ASSOCIATE DEAN (R & C)-IPR

**Dr. Piyush N. Patel**

**E Mail Id:** adean\_rnc-ipr@svnit.ac.in

**Contact No.** 0261-2201135

**Responsibility:** Establishment of the IPR Cell, IPR (Patents, Copyrights, Design Registration etc.) related activities, MoUs, CIDER, ICSRB & ASHINE, Research Park and SSIP related activities and closing-on the Seed Grant Phase - I.

---

## ASSOCIATE DEAN (R & C)-CRP

**Dr. Namrata Jariwala**

**E Mail Id:** adean\_rnc-CRP@svnit.ac.in

**Contact No.** 0261-2201135

**Responsibility:** The consultancy projects from initial registration to final completion, including status monitoring, dispute resolution etc. Unnat Bharat Abhiyan, all receipt, GST, Tax deduction, settlement with CA, all bankaccount reconciliation.



## ASSOCIATE DEAN (R & C)-SRP

**Dr. Manish K. Rathod**

**E Mail Id:** adean\_rnc-SRP@svnit.ac.in

**Contact No.** 0261-2201135

**Responsibility:** All the activities related to the Sponsored Research Projects - the initial registration, the administrative content of sponsored project proposals, budgetary estimates, actual project sanctions, progress reports, utilization statuses, completion certificates, POH distribution, Physical Stock Verification on project closure etc. RnC Website, RnC Calendar, RnC Newsletter and other publicity related matters of the Dean (R&C) office, Seed Grants to the Assistant Professors, Phase - II.



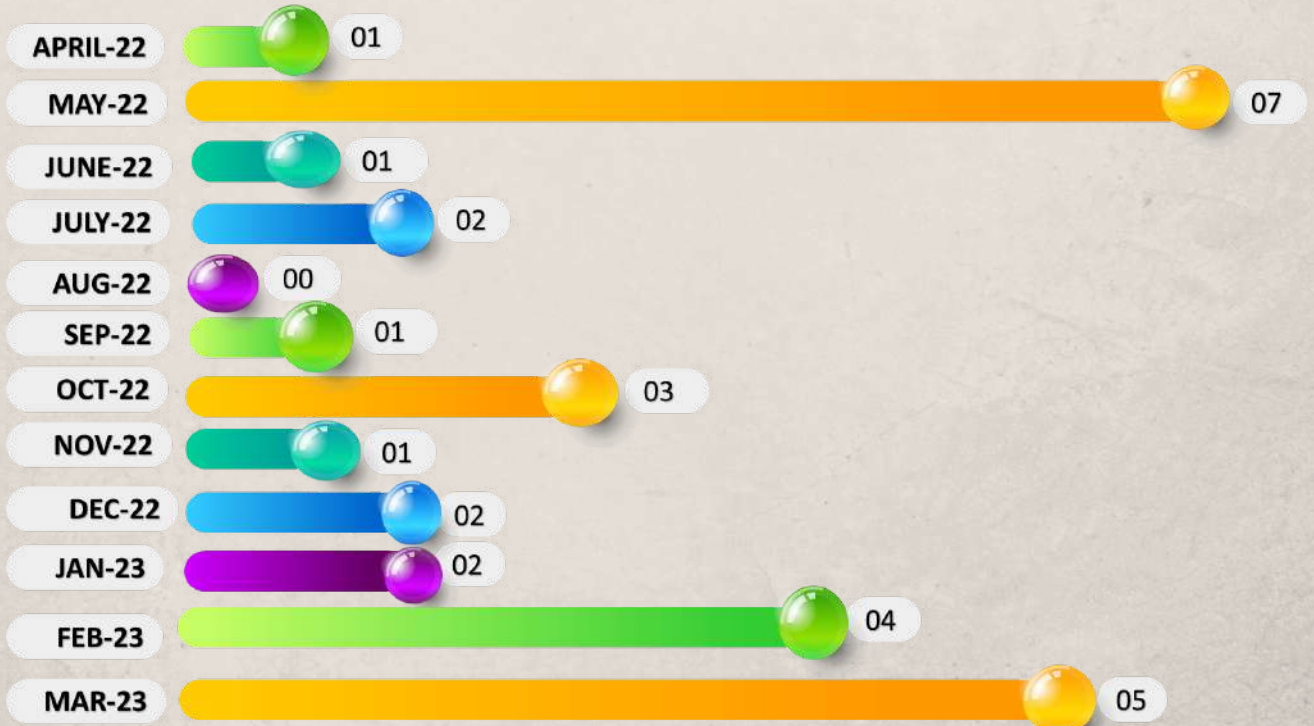
# SPONSORED RESEARCH PROJECT

The SVNIT, Surat places a significant amount of importance on sponsored research, collaborative research funded by National and International agencies, and strong industrial contact. The institution features state-of-the-art labs and the necessary equipment to back up its research. Sponsored research has become a significant contributor to the development of infrastructure and enhancement of facilities in various emerging technology domains. The details of sponsored research project during April 2022-March 2023 is as follows.

Month	No. of Projects Submitted	Proposed Amount	No. of Project Sanctioned	Sanctioned Amount
April	42	Rs.16,14,95,010	1	Rs. 8,27,160
May	22	Rs. 6,21,82,818	7	Rs. 1,83,08,800
June	19	Rs. 4,72,03,461	1	Rs. 25,18,200
July	9	Rs. 2,77,77,738	2	Rs. 19,50,000
August	21	Rs. 10,27,13,234	0	Rs.0
September	11	Rs. 5,03,44,924	1	Rs. 35,74,000
October	27	Rs. 5,06,29,082	3	Rs.90,24,51,790
November	2	Rs. 15,45,000	1	Rs.3,00,000
December	3	Rs. 76,55,122	2	Rs. 34,06,223
January	10	Rs. 22,73,30,422	2	Rs.2,65,92,264
February	39	Rs. 43,66,27,282	4	Rs. ,30,70,000
March	60	Rs. 21,08,41,701	5	Rs.1,07,05,405

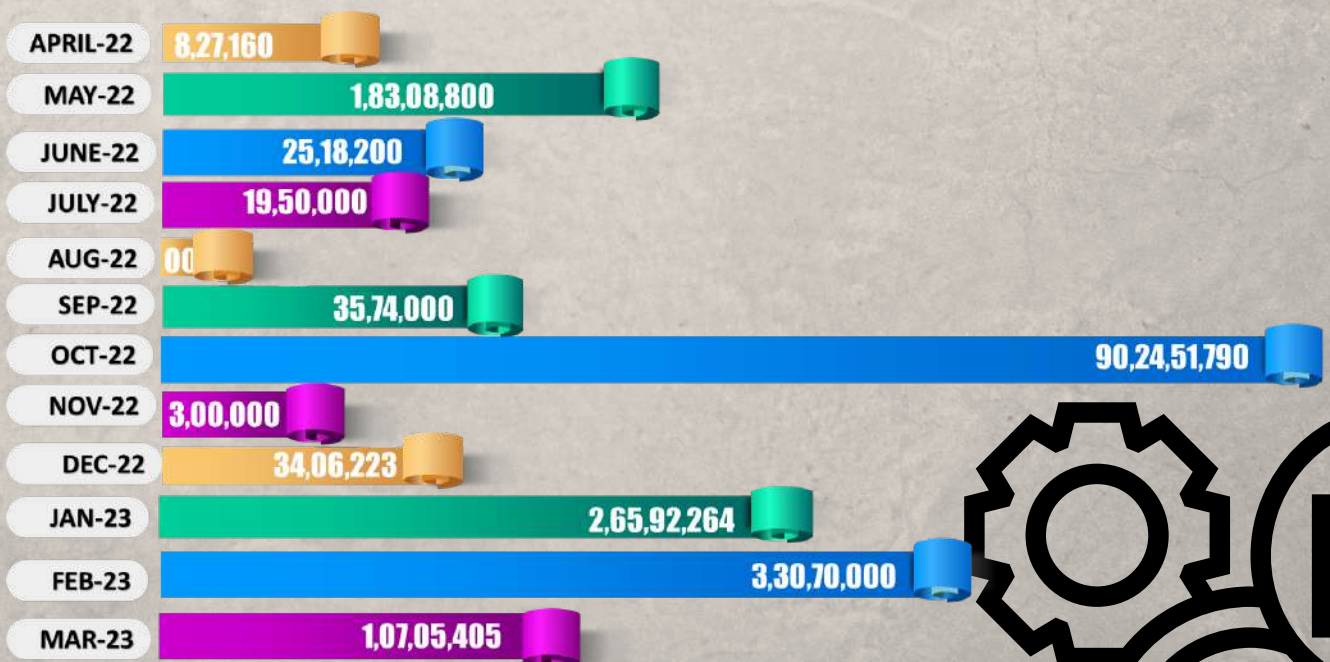
# SPONSORED RESEARCH PROJECT

## SANCTIONED PROJECTS



F.Y. 2022-23

## SANCTIONED AMOUNTS



F.Y. 2022-23



# SPONSORED RESEARCH PROJECT

Sr. No.	Research Project Title	Name of PI/Co-PI	Agency	Sanctioned Amount
1	Catalytic Decomposition Of Waste Biopolymers To Value-Added Compounds	Dr. Parimal A. Parikh	Gujarat State Biotechnology Mission	Rs. 8,27,160
2	Intelligent Control For Active Shunt Compensator In Wind-Based Renewable Energy System For Remote Power Application	Dr. Sabha Raj Arya Dr. Rajasekharareddy Chilipi Dr. Ashutosh K. Giri ( G.E.C. Bharuch)	GUJCOST	Rs. 48,78,200
3	Enhancing The Service Life Of Concrete Structures Through Cement Less Concrete Or Geopolymer Concrete	Dr. B. Kandraivendhan Dr. C. D. Modhera	GUJCOST	Rs.17,23,200
4	Investigation Of Thermal And Emissions And Characteristics With Multi Tube Inverse Diffusion Flame Burner	Dr. Rupesh D. Shah Dr. Baraiya Nikhil Ashokbhai	GUJCOST	Rs.7,95,000
5	Design And Development Of Pcm Based Passive Cooling System Of E House	Dr. Manish K Rathod Dr. Jyotimay Banerjee	GUJCOST	Rs .32,09,200
6	Development Of Multi-Material Welding Approach For Ultrahigh- Strength Steel And 7xxx Aluminium Alloys To Promote Light- Weighting And Green Mobility In The Automobile Sector	Dr. Vivek D. Kalayankar Dr. Mukund H. Bade	GUJCOST	Rs.15,70,000
7	Examining Congestion Mitigation Strategies For Indian Cities Towards Accomplishment Of Sustainable Habitat	Dr. Shrinivas Arkatkar Dr. G. J. Joshi Dr. Bhavesh Gohil	GUJCOST	Rs. 27,88,200
8	Synthesis And Rheological Characterization Of Liposome Stabilized Emulsion- Hydrogel Matrix For Controlled Release Of Essential Oil	Dr. Sundar S. K Dr. Jigisha Parikh	GUJCOST	Rs.33,45,000

# SPONSORED RESEARCH PROJECT

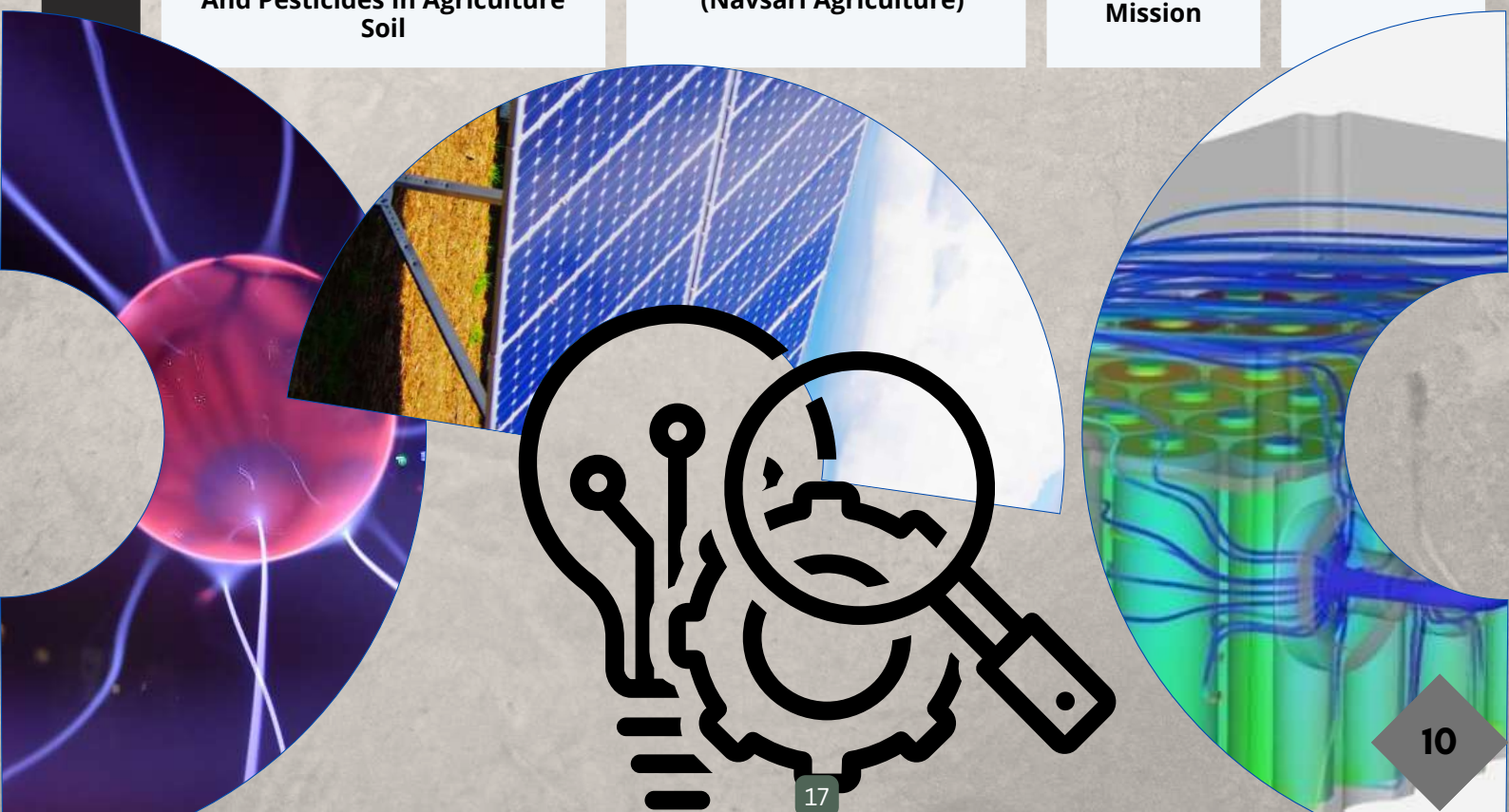
Sr. No.	Research Project Title	Name of PI/Co-PI	Agency	Sanctioned Amount
9	Waste Water Treatment: Polymoxemetalates Hybrids As Adsorbent Of Organic Dyes	Dr. Ritambhara Jangir Dr. B.Z. Dholakiya	GUJCOST	Rs. 25,18,200
10	Selective Air Oxidation Of 2 Chloro Toluene To 2 Chlorobenaldehyde Using Mn-Cu: And Ceo2	Dr. Milap G. Nayak (GEC, Chandkheda) Dr. V. N. Lad	DTE, Gujarat	Rs. 2,00,000
11	A Compact Novel Hybrid System For The Human Urine Recycling And Potable Water Recovery For Long -Term Human Space Mission	Dr. Alka A. Mungray Dr. Arvind Kumar Mungray Dr. Shriram Sonawane, VNIT Nagpur	ISRO	Rs.17,50,000
12	A Study Evaluating The Efficiency Of Smart Carbonated Water Injections In Maximizing Both, The Amount Of CO2 Sequestered And Oil Recovered, During Enhanced Oil Recovery Process In A Mature Oil Field In India	Dr. Shilpa Kulbhushan Nandwani Dr. Mousumi Chakeraborty (Mentor)	DST- (WoS-A)	Rs. 35,74,000
13	A Stimuli -Responsive Pnipam Based Block Copolymer Aggregates As Building Blocks Of Smart Aggregates For Biomedical Applications	Dr. Vijaykumar Ishverlal Patel (Navyug Sci. College, VNSGU) Prof. Jigisha Parikh	SERB	Rs.18,00,000
14	Design And Development Of A Novel Battery Thermal Management System Based On The Direct Flow Boiling Of A Bi-Phasic Catalyst With Nanoparticle Suspension	Dr. Rajesh Choudhary	SERB	Rs.19,51,790
15	Capacity Building For Human Resource Development In Unmanned Aircraft System (Drone And Related Technology)	Dr. Anand Darji Dr. Dipti Rana Dr. Suresh Dahiya	Ministry Of Electronics And Information Technology	Rs. 89,87,00,000

# SPONSORED RESEARCH PROJECT

Sr. No.	Research Project Title	Name of PI/Co-PI	Agency	Sanctioned Amount
16	Construction Demolition Waste & Safety Management	Dr. D. A. Patel Dr. Kashyap Patel	Royal Academy Of Engineering, UK	Rs. 3,00,000
17	Usbl Tracking And Passive Localization Of Targets Using Correntropy And Moving Horizon Estimates	Dr. Rahul Radhakrishnan Dr. S. N. Sharma	DRDO(NPOL)	Rs.12,76,505
18	Development Of Advanced Non-Liner Non-Gaussian State Estimators With Application To Real-Life Problems	Dr. Rahul Radhakrishnan Dr. S. N. Sharma	SERB	Rs. 21,29,718
19	Design And Development Of Smart BMS With Cell Surface Temperature Estimation	Dr. Mahmdasraf A. Mulla Dr. Sanjay Tolani	SERB	Rs. 62,92,264
20	Development Of 4-Axis Extrusion-Based 3 D Printer To Fabricate Cylindrical Topology Structures	Dr. Sandip T. Patel, (GEC Valsad) Dr. Harshit K. Dave	DTE, Gujarat State	Rs.1,97,000
21	Experimental Investigation On Functionally Graded Cellular Materials Fabricated Using Additive Manufacturing Process	Dr. Lalit S. Patel, (GEC Valsad) Dr. Harshit K. Dave	DTE, Gujarat State	Rs.1,95,500
22	Designing And Synthesis Of Fluorescent Metal-Organic Frameworks For Sensing Applications	Ms. Foziya Yusuf Vadia Dr. Suresh Kumar Kailasa Dr. Naved I. Malek	DST	Rs.16,66,000
23	Design, Development, And Fabrication Of Electro Catalytic Reactor For Energy Efficient And Cost Effective Production Of Bio-Diesel From Higher Generation Feed Stock	Dr. Kamlesh Arun Sorate	SERB	Rs.12,48,500

# SPONSORED RESEARCH PROJECT

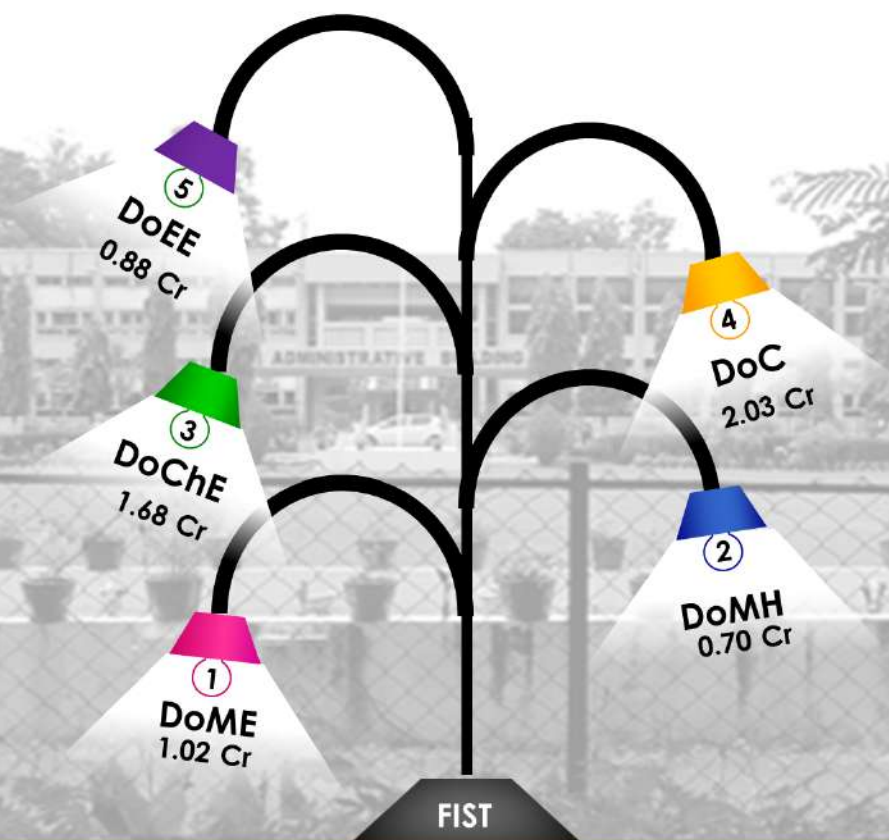
Sr. No.	Research Project Title	Name of PI/Co-PI	Agency	Sanctioned Amount
24	Interface Engineering Of 3d/2d Lead-Free Halide Perovskites Materials For Solar Cell	Dr. Yogesh Sonavane	SERB	Rs. 20,02,514
25	Towards The Performance Of Latent Heat Storage Unit: A Numerical Investigation	Dr. Digant S. Mehta Dr. Manish K. Rathod	DTE, Gujarat State	Rs. 2,00,000
26	Technology Upgradation Of A Traditional Jaggery-Making Plant Through Porous Media Combustion For Emission Reduction & Waste Heat Recovery	Dr. Rohan R. Pande Dr. P.V. Bhale Dr. Kamlesh Sorate Prof. R. A. Christian	SERB	Rs. 22,19,800
27	Design And Development Of Solar Driven Desalination System Based On An Air-Humidification Technique Using Nano-Fluids	Dr. Amit Kumar Dr. Rajesh Chaudhary	DST	Rs. 39,70,771
28	Development Of Eco-Friendly Optical Probes For Monitoring Of Important Growth Hormes And Pesticides In Agriculture Soil	Dr. Suresh Kumar Kailasha Dr. Sanjay Jha (Navsari Agriculture)	Gujrat State Bio-Technology Mission	Rs. 23,12,320



# FUND FOR IMPROVEMENT OF S&T INFRASTRUCTURE (FIST)

The scheme “Fund for Improvement of S&T Infrastructure (FIST)” is intended to provide basic infrastructure and enabling facilities for promoting R&D activities in new and emerging areas and attracting fresh talents in universities & other educational institutions. It is considered as complementary support for enabling Departments/ Centres/ Schools/ Colleges to pursue research activities more effectively and efficiently. It is a pleasure that a total of 5 Departments of SVNIT got FIST projects of around 6.31 Cr.

The scheme will provide optimal infrastructure facilities for post-graduate and higher research, such as, renovation of existing laboratory space (no fresh constructions) and cold room, modernization of laboratories involved in PG and higher research, acquisition of essential equipment, up-gradation of existing facilities, networking & computational facilities including software & databases, scientific & technical books, maintenance & refurbishing of existing and new facilities etc. The facilities provided under the program are intended to support the efforts of the department as a whole or a number of faculty members in the Department. Proposal towards individual R&D support are not accepted under this Scheme. The synergy and focus of research may preferably be aligned to National Missions/ priorities.



# FUND FOR IMPROVEMENT OF S&T INFRASTRUCTURE (FIST)

FIST is sanctioned by the Department of Science and Technology, New Delhi to SVNIT for the following major items.

- **Department of Mechanical Engineering**

Laser Camera with Synchronization & accessories  
(around Rs.100,00,000/-)

- **Department of Electrical Engineering**

Solar PV simulator 2 Nos, DFIG setup-1, Grid Emulator-1  
Programmable Electronic Load- 1 No  
(around Rs. 75,00,000/-)

- **Department of Chemistry**

LC-MS/M5 (around Rs.1,75,00,000/-)

- **Department of Chemical Engineering**

GCMS; Supercritical Fluid Extraction; Gas Sorption unit  
(around Rs.150,00,000/-)

- **Department of Mathematics & Humanities**

Hardware Rs. 58,00,000/-, 4 no. GPU-based workstation, 15 PCs, 5KVA UPS, 2 Printers, 1 Xerox Machine Rs. 40,00,000/- & software (MATLAB, LINGO)  
(around Rs.18,00,000/-)



# SEED MONEY/ RESEARCH GRANT

Sardar Vallabhbhai National Institute of Technology, Surat wishes to encourage its Newly Joined Faculty members (Assistant Professors) to engage in the activities of research and innovation so as to increase the IP wealth of the Institute. Present policy document related to release of seeds grant and financial assistance for promotion of research / capacity building / outreach / knowledge up gradation will be followed with effect from February, 2014.

Departments	Phase-I		Phase-II	
	No. of PI	Seed Grant Amount	No. of PI	Seed Grant Amount
DoME	12	Rs.1,16,50,748	11	Rs.1,07,81,000
DoCE	5	Rs. 42,55,874	2	Rs. 20,00,000
DoP	1	Rs.10,00,000	5	Rs. 43,10,000
DoC	2	Rs. 20,00,000	4	Rs. 40,00,000
DoMH	2	Rs.10,64,122	2	Rs.17,80,000
DoCSE	2	Rs.18,50,000	1	Rs.9,50,000
DoChE	4	Rs. 39,57,180	0	0
DoECE	5	Rs. 47,75,250	5	Rs. 49,87,600
DoEE	7	Rs. 70,00,000	3	Rs. 29,96,181
<b>Total</b>	<b>40</b>	<b>Rs. 3,75,53,174</b>	<b>33</b>	<b>Rs. 3,18,04,781</b>

# SEED MONEY/ RESEARCH GRANT

## PHASE-I

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
1	Development of next generation biodegradable iron implants for orthopaedic and cardiovascular applications	Dr. Pawan Sharma	Rs.9,75,000
2	Development of ultrafine grained magnesium alloys by a novel differential speed rolling process and studies its effect on tension-compression asymmetry	Dr. Biranchi Narayan Sahoo	Rs.9,70,000
3	Thermal conductivity enhancement of a PCM based heat sinks using heat pipes	Dr. Naresh Yarramsetty	Rs.9,90,793
4	Development of test facility to study combustion dynamics of high-hydrogen and bio-fuels in the turbulent gas turbine combustor	Dr. Nikhil A Baraiya	Rs.9,85,000
5	Design and Development of solar driven water generation system based on desiccant coated heat exchanger	Dr. Amit Kumar	Rs.9,75,000
6	The assessment of process strategies and damage predictions for improving a novel SPIF process	Dr. Amrut Mulay	Rs.9,80,000
7	Experimental and numerical investigation of thermal analysis of multi-layered biological tissue phantom: An application to radiation therapy	Dr. Vipul Mangalbhai Patel	Rs.9,89,580
8	Study and analyses of CNT reinforced laminated plates	Dr. Sumit Khare	Rs.9,75,000
9	Pyrolysis of sewage sludge for enhancing the quality of syngas and liquid fuel produced	Dr. Prabhansu	Rs.9,50,000
10	Vibration energy harvesting through linear/nonlinear vibration of cantilever beams of different materials	Dr. Rohit Tamrakar	Rs.9,87,000



# SEED MONEY/ RESEARCH GRANT PHASE-I

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
11	Development and performance Study of Wire Electrochemical Spark Machining setup	Dr. Pallvita Yadav	Rs.9,00,000
12	Investigations on gasification of refused derived fuel (RDF) in typical Indian context	Dr. Rohan R. Pande	Rs.9,73,375
13	Experimental and numerical simulation of large deformation geotechnical problems	Dr. Jitesh T. Chavda	Rs.9,70,000
14	Coupled numerical simulation of hydrodynamic and morphology for a river reach considering sediment extraction	Dr. Bandita Barman	Rs.9,85,854
15	Predictive active control using neural network for partially observed building frames	Dr. Vashisht Bhaiya	Rs.5,00,000
16	Effect of creep and anisotropy angle on deformation behavior of underground openings	Dr. Ankesh Kumar	Rs.10,00,000
17	Experimental and numerical investigations on instantaneous behavior of FRP-strengthens RC beams	Dr.Kashyap A. Patel	Rs.8,00,000
18	Microwave plasma interaction with conducting surface and its effect on plasma parameters	Dr. Shail Pandey	Rs.10,00,000
19	Ab initio synthesis of phosphate frame work materials with asap table properties	Dr. Ritambhara Jangir	Rs.10,00,000
20	Strategies for the heterocycles synthesis: Art of contriving molecules via C-H bond activation	Dr. Togati Naveen	Rs.10,00,000
21	On trigonometric approximation of function and their conjugates belonging to certain Lipchitz classes	Dr. Shailesh Kumar Srivastava	Rs.6,84,122

Conti.

# SEED MONEY/ RESEARCH GRANT

## PHASE-I

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
22	On optimality and duality for interval-valued variationally programming problems	Dr. Indira P. Debnath	Rs.3,80,000
23	Blockchain-enabled public key infrastructure based solutions for Internet of Things (IoT)	Dr. Balu L. Parne	Rs.9,20,000
24	Design and analysis of secure and efficient Smart Contracts using Blockchain Technology	Dr. Keyur Parmar	Rs.9,30,000
25	Study of air gap membrane distillation process for seawater desalination using synthesized hydrophobic membrane and investigate the possibility of zero liquid discharge	Dr. Sarita Kalla	Rs.9,75,000
26	Continuous and sustainable extraction of critical metals from e-waste	Dr. Jogender Singh	Rs.10,00,000
27	Food grade nano emulsions and their stability aspects for efficient delivery of micronutrients via formication	Dr. Sundar S. K.	Rs.9,95,000
28	Optimization of performance of low-cost surface modified nanoparticles based water filtration and its LCA study	Dr. Vineet Kumar Rathore	Rs.9,95,000
29	A TCAD framework for assessment of spacer material and back-gate bias on the electrical performance of negative capacitance FETs	Dr. Abhishek Acharya	Rs.10,00,000
30	Spectrum sensing for cognitive radio: A Way to improve spectrum utilization in India	Dr. Kamal M. Captain	Rs.10,00,000
31	Development of many-objective optimization framework for VLSI circuits	Dr. Deepak Joshi	Rs.9,25,000

# SEED MONEY/ RESEARCH GRANT

## PHASE-I

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
32	Heart rate and lung volume estimation from the speech signal	Dr. Suman Deb	Rs.9,43,000
33	Design of metamaterial based microwave absorber using agricultural waste	Dr. Kirti Inamdar	Rs.9,07,250
34	Simplified predictive torque control strategies for an induction motor drive	Dr. K .V .Praveen Kumar	Rs.10,00,000
35	A novel hybrid cascade multi-level inverter with single DC source by employing toroidal transformer	Dr. Jammala Venkataramanaiah	Rs.10,00,000
36	Trajectory optimization of reentry vehicles using combined metaheuristic and collocation based methods	Dr. Gangireddy Sushnigdha	Rs.10,00,000
37	Development of optimal switching angle methods for asymmetric cascade H-bridge multilevel inverter	Dr. Aeidapu Mahesh	Rs.10,00,000
38	Development of a versatile battery charger for electric vehicles with reduced sensor count	Dr. Sanjay Tolani	Rs.10,00,000
39	Optimization-based algorithms for state and parameter estimation, and their performance evolution	Dr. Rahul Radhakrishnan	Rs.10,00,000
40	Research on power electronics and control: Grid-Interface for renewables, storage and green micro-grids	Dr. Rajasekharareddy Chilipi	Rs.10,00,000

# SEED MONEY/ RESEARCH GRANT

## PHASE-II

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
1	Experimental study of turbulent convection in rayleigh-benard cavity filled with nanofluid and biphasic catalyst	Dr. Rajesh Choudhary	Rs.9,84,000
2	Development of multivariant Electro-chemicals discharge grinding Machine and Experimental Investigations	Dr. Ram Singh Yadav	Rs.9,75,000
3	Design and testing of aero elastically trailored curved composite CFRP panel with and without cutout under fatigue and static loading(experiment and numerical)	Dr. Rayasam Srilakshmi	Rs.9,84,000
4	Design and fabrication of wire arc additive Manufacture system and investigatigate the deposition pattern on interalyer microstructure of inconel and titanium alloys	Dr. Krishna Kishor Mugada	Rs.9,85,000
5	Numerical and experimental investigation of refrigrator system for R134a and R1234f.	Dr. Yogendra Vasantrao Kuwar	Rs.9,80,000
6	Manufacturing and predications of the weld quality of Al-Ti alloys Bi-Metallic Clad Sheds by interlayer assisted friction stir welding	Dr. Raju Prasad Mahto	Rs.9,80,000
7	An integrated biorefinery approach through cascadian of thermochemical and biochemical conversion processes for sustainable energy and value added products	Dr. Sorate Kamlesh Arun	Rs.9,78,000
8	Design, development and performance evaluation of symmetric and asymmetric spur gears made of cooper powder filled polymer composites.	Dr. Susanta Behera	Rs.9,80,000
9	Development of low-density high strength entropy alloys and their composites for automobile application	Dr. Neeraj Srivastava	Rs.9,85,000

# SEED MONEY/ RESEARCH GRANT PHASE-II

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
10	Analysis of deformation and recrystallization behavior in two-Phase Fr-Cr-Ni alloy based on microstructure and texture evolution Experiment & Simulation	Dr. Amit Kumar	Rs.9,80,000
11	Development of a health risk assessment tool	Dr.Samaranika Panda	Rs.10,00,000
12	Lateral-Torsional response in Building with different plan geometry under earthquake shaking	Dr. Tamizharasi Gandhi	Rs.10,00,000
13	Accelerator based nuclear physics research	Dr. Patel Dipikaben Baldevbhai	Rs.9,50,000
14	Synthesis and characterization of nano structural materials for photocatalytic and gas sensing application	Dr. Himanshu Pandey	Rs.9,65,000
15	To study the structure of nucleon	Dr. Vikash Kumar Ojha	Rs.5,35,000
16	Entry mechanism of solar wind particles in lunar wake environment	Dr. Mithun Karmakar	Rs.9,50,000
17	Numerical study of the solar wind plasma turbulence	Dr. Sharad Kumar Yadav	Rs.9,10,000
18	Experimental and theoretical investigations on molecular interactions underlying atmospherically relevant compounds at temperatures ranging from ~78 K-400 K	Dr. Arup Kumar Ghose	Rs.10,00,000
19	Design, Synthesis, and characterization of dioxidomolybdenum complex on functionalized graphene oxide forexpoxidation of olefines	Dr.Lata Rana	Rs.10,00,000
20	Paper based lateral flow assay to detect specific antibody	Dr. Subrata Dutta	Rs.10,00,000

# SEED MONEY/ RESEARCH GRANT

## PHASE-II

Sr. No.	Research Project Title	Name of PI	Sanctioned Amount
21	Mimicking the properties of antifreeze glycoproteins: synthesis and characterisation of glycoconjugates based supramolecular system for Ice Growth Inhibition and Antifreeze Studies	Dr. Areti Sivaiah	Rs.10,00,000
22	Exploring the impact of global oil price and innovation for sustainability: Evidence from BRICS Economies	Dr. Chauhan Vaishaliben Harishkumar	Rs.9,50,000
23	Mathematical treatment of phenomenon arising in fluid flow through porous media including dynamic capillary pressure effect	Dr. Yadav Saroj Rajmani	Rs.8,30,000
24	Design of efficient code dissemination protocol for internet of Things(IOT)	Dr. Alok Kumar	Rs.9,50,000
25	Investigations of potential optoelectronic material for energy harvesting/ energy storage application and device realization	Dr. Vivek Garg Dr. Shivendra Yadav Dr. Nithin Chatterji	Rs.30,00,000
26	Development of low-cost experimental setup for performance evaluation of medium access control protocols and routing protocols for wireless ad hoc network	Dr.Raghavendra Pal	Rs.9,91,600
27	Advanced MIMO GNSS receiver	Dr. Suresh Dahiya	Rs.9,96,000
28	Machine learning based ETDS for electric vehicles application	Dr. Sukanta Halder	Rs.10,00,000
29	Implementation of efficient switching algorithms for open-End winding induction Motor drive for PV Powered electric vehicles	Dr. Suresh Lakhimsetty	Rs.10,00,000
30	Development of impact assessment and voltage regulation approach for active distribution system embedded with EV fast charging station	Dr. Akansha Shukla	Rs.9,96,181
31	Characterization of ultrafine-grain samples fabricated using modified severe plastic deformation techniques	Dr. Sunil Kumar	Rs.9,70,000

# CONSULTANCY PROJECT

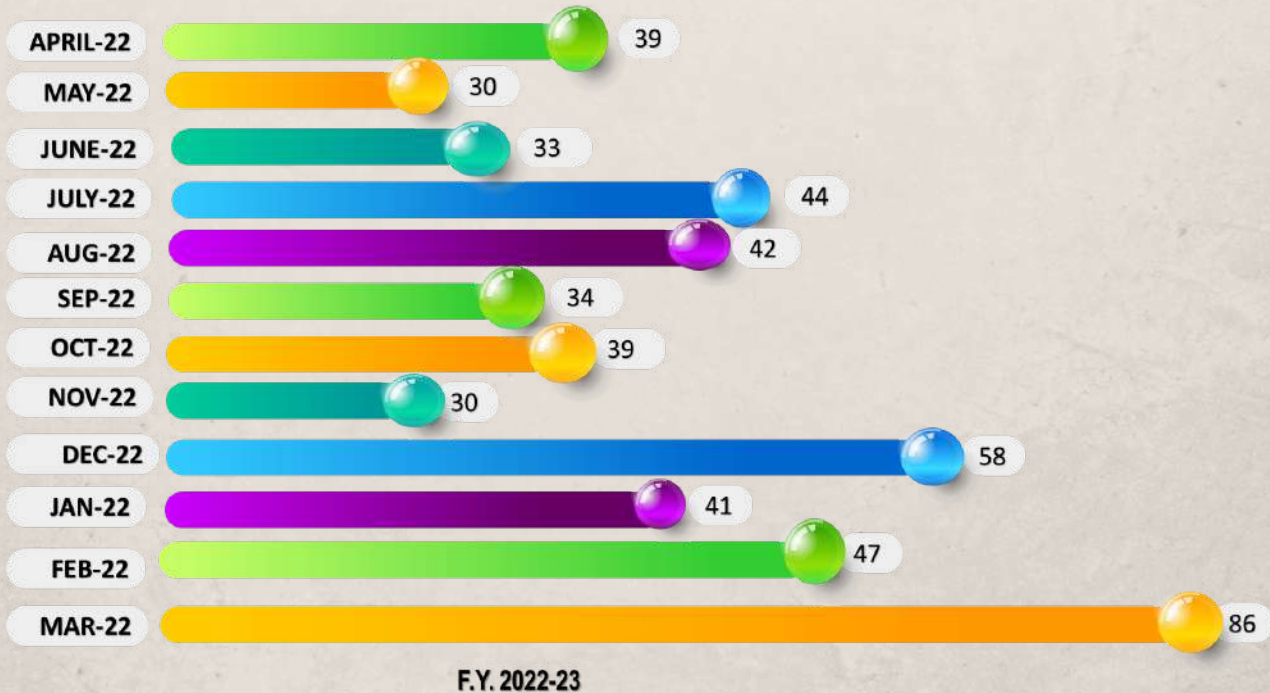
Consultancy Project means a consultancy assignment/job given by an outside agency to a faculty of the Institute for work within a mutually agreed scope. The Institute has expertise in various research areas to provide knowledge and intellectual inputs which are of interest to the industry and other organizations. A consultancy project/task/work is one where faculty and research staff provide knowledge and intellectual inputs to industry or other organizations (within India and abroad), primarily for their purposes. It may also include a consultancy assignment/job referred to the Head of the Department or a functionary of the Institute (i.e. Director or Dean(s) or Registrar). The Institute will then do the needful for complying with statutory laws.

- Faculty or PI will handle the project account and spend funds as required. Share of the Institute should also be transferred.
- The requirement originates from the industry/other organizations concerned or faculty can approach the industry/other organizations. The faculty is expected to estimate the time and cost required to accomplish the task.
- The proposal is then prepared by the PI.
- All consultancy proposals must be sent under the signature of the PI to Dean/Associate Dean R&C for endorsement and office will assign a unique internal number to the project proposal.
- Project responsibility: These projects are headed by a Principal Investigator (PI), and may have Co-Principal Investigators (co-PIs) and the deliverables are the responsibility of the PIs. The Institute provides the PIs necessary support.
- The statement of expenditure and utilization certificate will be prepared at every financial year end by the competent designated authority if required.
- After completion of the project, the final report should be submitted to the funding agency with a copy to the office of SRCDC.

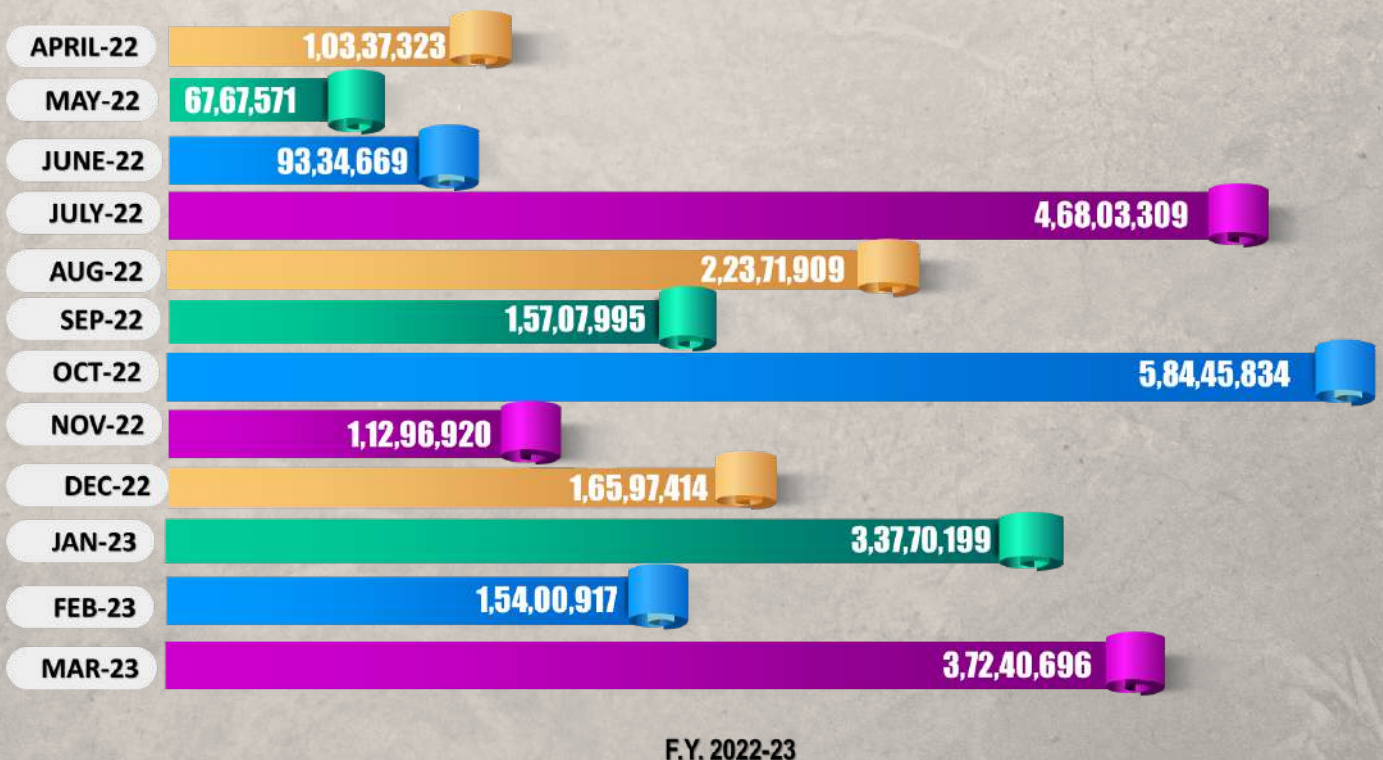


# CONSULTANCY PROJECT

## NUMBER OF CONSULTANCY



## CONSULTANCY AMOUNTS





# CONSULTANCY PROJECT

## LIST OF MAJOR CLIENTS

- Surat Municipal Corporation, Surat (SMC)
- Surat Urban Development Authority, Surat (SUDA)
- Ahmedabad Municipal Corporation, Ahmedabad (AMC)
- Ahmedabad Urban Development Authority, Ahmedabad (AUDA)
- Gujarat Pollution Control Board, Gandhinagar (GPCB)
- Geo Designs & Research (P) Ltd., Vadodara
- National Rural Infrastructure Development Agency, New Delhi (NRIDA)
- National Highways Authority of India (NHAI), PIU-Bharuch
- Veer Narmad South Gujarat University (VNSGU), Surat
- U. P. Projects Corporation Limited, Lucknow
- Urban Ring Development Corporation Limited, Surat
- Road & Building Department, Gujarat
- Executive Engineer, South Andaman Div, A.P.W.D., Port Blair
- Central Designs Organizations, Narmada Water Resources, Water Supply and Kalpasar Department, Gandhinagar
- Unique Construction, Surat
- NBCC (India) Limited
- Montecarlo Limited
- Project Implementation Unit, Gandhinagar
- Project Implementation Unit, Surat
- Sports Authority of Gujarat, Gandhinagar
- Gujarat Urban Development Company Limited, Gandhinagar
- Multi Media Consultants Pvt. Ltd, Ahmedabad
- Executive Engineer, Kadana Division No.1, Diwada Colony, Gujarat
- Narmada Clean Tech, Bharuch
- Gujarat State Road Transport Corporation (GSRTC)
- Varaha Infra Limited, Jodhpur

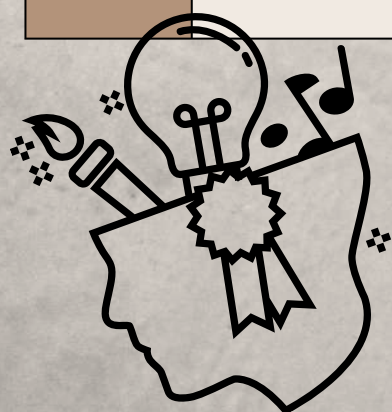


A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem. To get a patent, technical information about the invention must be disclosed to the public in a patent application.

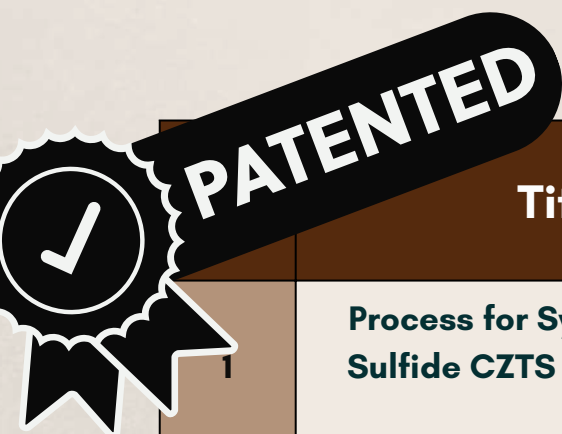


# PATENT FILED

Sr.No	Title of Patent	Inventor(s)
1	Cardanol based Bio-polyol and Process for Preparation Thereof	Dr. B Z Dholakiya
2	An Industrial One Pot Process for the Preparation of Chlorzoxazone	Dr. Premlata Kumari Mr. Mahesh D Vaghasiya
3	Hybrid PCM-based Heat Sink Coupled with Heat Pipe for Thermal Management of Electronics Systems	Dr. Naresh Yarramsetty Dr. J Banernjee
4	H-Bn@Mil-101(Cr)/Pvdf Photocatalytic Mix Matrix Membrane For Degradation Of Reactive Dye From Textile Industry Effluent	Mr. Amol Sonawane Dr. Z V P Murthy
5	Method of Fabricating Tio2@Mil-101(Cr)/Pvdf Photocatalytic Mix Matrix Membrane and Reactive Dyes Degradation using the same	Mr. Amol Sonawane Dr. Z V P Murthy
6	Upward Swirl type Combustor with Reverse Fuel Injection And Radial Air Distribution System	Mr. Parag Rajpara Dr. Rupesh Shah Prof. Jyotirmay Banerjee
7	Fabrication of Deep Eutectic Solvent Encapsulated MIL-53(Fe) based Chitosan Bio-polymeric Membrane for Organic Solven Separation	Dr. Z V P Murthy Mr. Amol Vijay Sonavane Mr. Dipeshkumar Kachhadiya
8	Storm Proof Vertical Axis Wind Turbine	Dr. Prabhansu Mr. Yash Mandaliya Mr. Sunil Bagde Mr. Mohd Aman Sidiqqi Mr. Somdeep Bhushan
9	Volumetrically Redistributed Headed Stud Shear Connectors	Dr. Y D Patil Mr. Rahul Pardeshi



# PATENT GRANTED

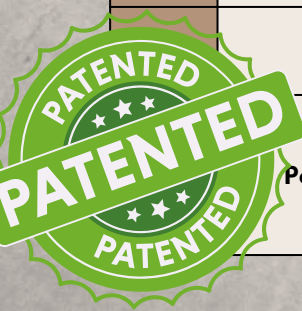


	<b>Title of Patent</b>	<b>Inventor(s)</b>
1	<b>Process for Synthesis of Copper Zinc Tin Sulfide CZTS Material as Hole Transport Material</b>	<b>Dr. Jignasa V Gohel Mr. Siddhant B Patel</b>
2	<b>Process for Vitamin Supplements Size Reduction using Hydrotropic Antisolvent crystallization</b>	<b>Dr. Desai Meghal A Mr. Akash D. Patel</b>
3	<b>Coconut Palm Stem Shaped Headed Stud Shear Connector</b>	<b>Dr. Y D Patil Mr. Rahul Pardeshi</b>
4	<b>Method for Preparation of Curcumin Nanoparticles</b>	<b>Dr. Z V P Murthy Mr. Amol Vijay Sonavane Ms. Kanika Meena Dr. Chetankumar M Patel</b>
5	<b>Method for Synthesis and Fabrication of MWCNT@ZIF-8-67/PVDF Nanocomposite Mixed Matrix membrane for Pervaporative Saltwater Desalination</b>	<b>Dr. Z V P Murthy Mr. Dipeshkumar Kachhadiya Mr. Amol Vijay Sonavane Dr. Chetankumar M Patel</b>
6	<b>Method for Photocatalytic Degradation of Drimaren Orange P2R Dye using ZIF-8/Ag3PO4/PVDF Photocatalytic Mixed Matrix Membrane</b>	<b>Dr. Z V P Murthy Mr. Amol Vijay Sonavane Mr. Dipeshkumar Kachhadiya Dr. Chetankumar M Patel</b>
7	<b>Method for Photocatalytic Degradation of Drimaren Orange P2R Dye using h-BN/Ag3PO4/PVDF Photocatalytic Mixed Matrix Membrane</b>	<b>Dr. Z V P Murthy Mr. Amol Vijay Sonavane Dr. Chetankumar M Patel</b>
8	<b>Method for Photocatalytic Degradation of Drimaren Orange P2R Dye using MoS2/Ag3PO4/PVDF Photocatalytic Mixed Matrix Membrane</b>	<b>Dr. Z V P Murthy Mr. Amol Vijay Sonavane Dr. Chetankumar M Patel</b>

# DESIGN REGISTRATION

**COPYRIGHT**

Sr. No	Title of Design	Inventor(s)
1	Construction Fastener	Dr. Yogesh Deoram Patil Mr. Rahul Tarachand Pardeshi
2	Battery Stack Cooling System for Electric Vehicles	Dr. Hemantkumar B Mehta Mr. Milan Vachhani
3	Membrane bioreactor system for water and wastewater treatment	Dr. Z V P Murthy Mr. Amol Vijay Sonavane Dr. Chetankumar M Patel
4	Wavy Flow Channel Membrane Module for Oil-water Separation	Dr. Z V P Murthy Mr. Amol Vijay Sonwane
5	Annular array shell for distillation of essential oil	Dr. Desai Meghal A, Prof. Jigisha K Parikh, Dr. G C Jadeja Dr. S R Patel
6	Setup for Measurement of Plane Strain Angle of Repose of Sand	Dr. Jitesh T Chavda Mr. Mandala Vishnuvardhan
7	Flat Sheet Membrane Casting Unit	Dr. Z V P Murthy Mr. Amol Vijay Sonwane
8	Direct Contact Membrane Distillation Module for Desalination	Dr. Z V P Murthy Dr. Sarita Kalla Mr. Amol Vijay Sonwane
9	Saitary Patch	Ms. Nishi Mehta Dr. Pallvita Yadav Dr. Sarita Kall
10	Hollow Fiber Membrane Module Regeneration System	Mr. Amol Vijay Sonawane Dr. Z V P Murthy
11	Reverse Osmosis (RO) Membrane Module Regeneration System	Mr. Amol Vijay Sonawane Dr. Z V P Murthy
12	Water pH Control System	Mr. Amol Vijay Sonawane Dr. Z V P Murthy
13	Machine for Casting of Metallic Alloy Ingots	Dr. Himanshu Pandey, Dr. Shail Pandey Mr. Subhash P Pai
14	Tapered Variable Channel Width Minichannel Heat Sink	Dr. Hemantkumar B Mehta Mr. Nishant M Shah Dr. Jyotirmay Banerjee
15	Triangular Ribbed Headed Studd Shear Connector	Dr. Y D Patil Mr. Prakash Abhiram Singh Mr. Rahul Pardesi
16	Racing Car	Dr. Hemantkumar B Mehta Students
	Automobile Radiator with Vortex Generator	Dr. Manish K Rathod Mr. Ashishkumar J Modi
	Pedal Assembly for Vehicle Hydraulic Braking System	Dr. Prabhansu, Mr. Yash Mandaliya Mr. Aman Vyas, Mr. Avdhesh Kumar Mr. Dhruvil Patel, Mr. Khushveer Charan



# MOU WITH INDUSTRY

**Objective:** Joint research activities and joint supervision of research work



**M G MOTOR INDIA PRIVATE  
LIMITED**

**BENCHMARK AGENCIES PVT LTD,  
AHMEDABAD**

**BENCHMARK®**



**SAHAJANAND MEDICAL TECHNOLOGIES  
PRIVATE LTD. VED ROAD, SURAT**

**TWEEN ENGINEERS, VADODARA**



**adani**

**ADANI HAZIRA PORTS LTD.**

# MOU WITH FOREIGN INSTITUTE

**Objective:** Exchange of scholars, researchers & students for research, co-authoring of scholarly and research publications, exchange of scholars, researchers, and students for seminars, conferences, workshops and other academic interaction meetings

**NORWEGIAN UNIVERSITY OF SCIENCE  
AND TECHNOLOGY, NORWAY**



**UTICA UNIVERSITY, NEW YORK,**

**SOUTHERN METHODIST UNIVERSITY  
(SMU), TX, USA**



**UNIVERSITY OF LOUISVILLE,  
KENTUCKY, USA**

# MOU WITH NATIONAL INSTITUTE

**Objective:** To promote and recognize the importance of research and development in the areas of structural engineering, structural health monitoring, fire engineering, heritage structures, innovative building materials, Advanced structural composite & durability, engineering, and sciences



**NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR**

**NATIONAL INSTITUTE OF TECHNICAL TEACHER'S TRAINING AND RESEARCH, BHOPAL**



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DESIGN & MANUFACTURING (IIITDM), KURNOOL**

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, NAGPUR**





# MOU WITH NATIONAL INSTITUTE



**INDIAN INSTITUTE OF INFORMATION  
TECHNOLOGY, PUNE**



**INDIAN INSTITUTE OF TECHNOLOGY,  
MANDI**



**NATIONAL INSTITUTE OF  
PHARMACEUTICAL EDUCATION AND  
RESEARCH, HYDERABAD**



**INDIRA GANDHI DELHI TECHNICAL  
UNIVERSITY FOR WOMEN, DELHI**



**THDC - INSTITUTE OF HYDROPOWER  
ENGINEERING & TECHNOLOGY,  
TEHRI - UTTARAKHAND**



**INSTITUTE OF TECHNOLOGY, NIRMA  
UNIVERSITY, AHMEDABAD**



**NATIONAL INSTITUTE OF TECHNOLOGY,  
SIKKIM**



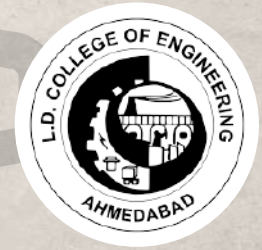
# MOU WITH NATIONAL INSTITUTE

**MALAVIYA NATIONAL INSTITUTE OF  
TECHNOLOGY, JAIPUR**



**MARWADI UNIVERSITY, RAJKOT**

**L D COLLEGE OF ENGINEERING,  
AHMEDABAD**



**NEHRU FOUNDATION FOR DEVELOPMENT  
CENTRE FOR ENVIRONMENT EDUCATION  
SOCIETY, AHMEDABAD**

**NAVSARI AGRICULTURE UNIVERSITY,  
NAVSARI**



**VEER NARMAD SOUTH GUJARAT  
UNIVERSITY, SURAT**

# MOU WITH RESEARCH LAB

**Objective:** Strengthening and growth of mutually beneficial research educational and outreach programmes to be conducted cooperatively

**CSIR- CENTRAL ROAD RESEARCH  
INSTITUTE, NEW DELHI**

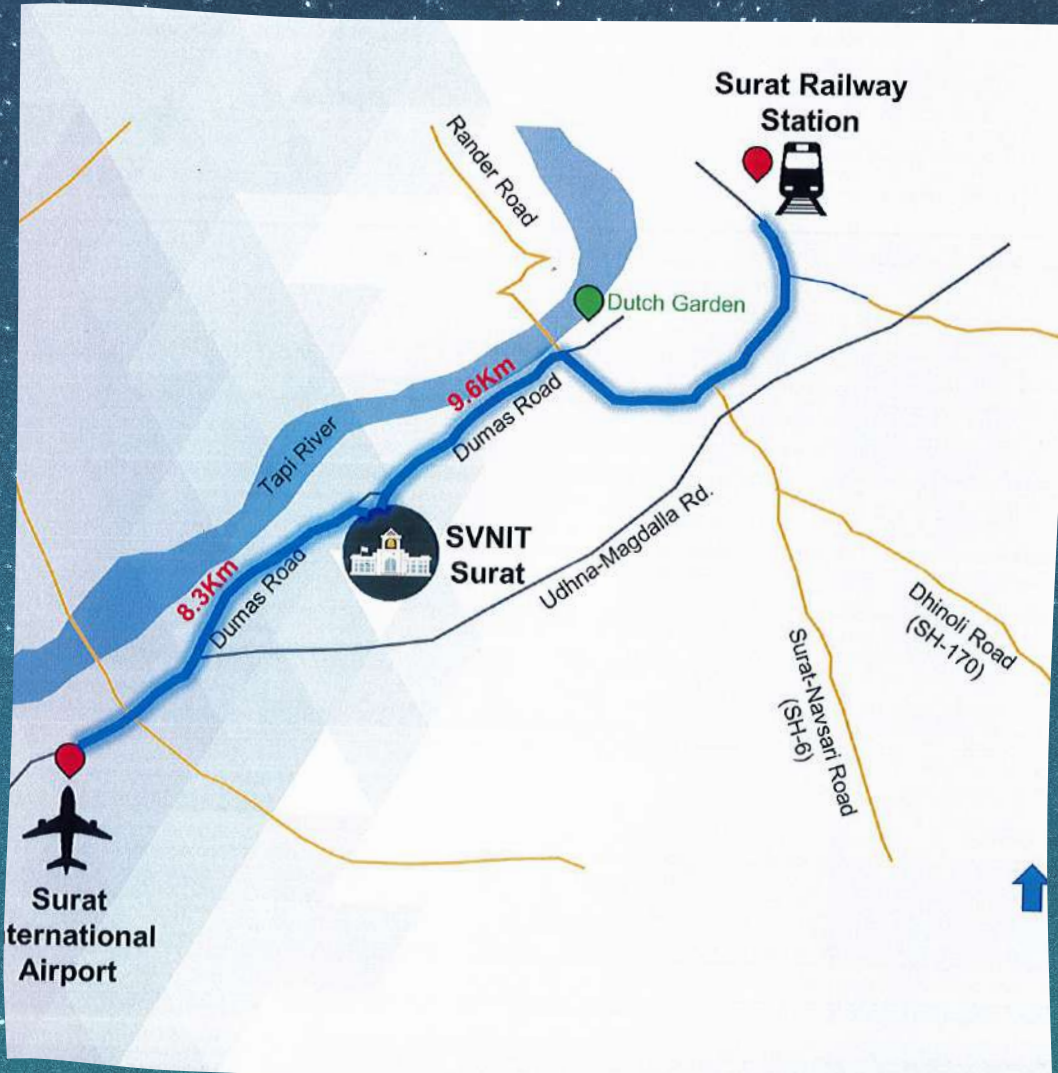


**CSIR- CENTRAL BUILDING RESEARCH  
INSTITUTE, ROORKEE**

**RESEARCH IN ENVIRONMENT, EDUCATION AND  
DEVELOPMENT SOCIETY (REEDS), BHARAT**



**KSCSTE - NATIONAL TRANSPORTATION  
PLANNING AND RESEARCH CENTRE,  
THIRUVANTHPURAM**



## CONTACT US

Office of the Dean Research & Consultancy,  
Sardar Vallabhbhai National Institute of Technology,  
Ichchhanath, Surat - 395007, Gujarat, India  
Email: dean\_rnc@svnit.ac.in, dean\_rnc-office@svnit.ac.in  
Phone: 02612201134-35

