



TEAM
a n t a r i k s h

STUDENT SPACE TECHNOLOGY TEAM R V COLLEGE OF ENGINEERING ®

Team Antarksh is an emerging space technology student club whose goal is to understand, disseminate and apply their engineering skills for innovation in the field of aerospace technology.

The hundred member strong team is working on two research projects namely, a novel idea to perform microbiological experiment in space with the help of ISRO, and designing a Sounding Rocket with a scientific payload aiming to perform an experiment at higher altitudes.

VISION

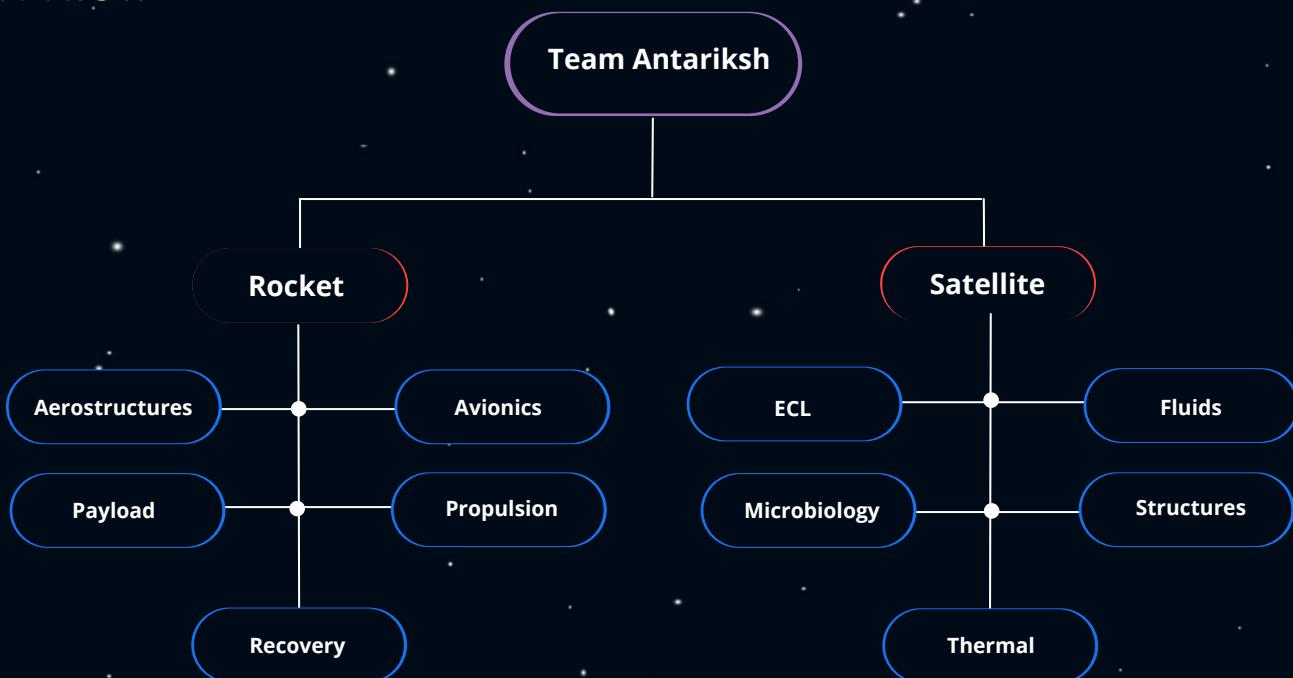
To inspire young minds to take up challenging tasks in aerospace technology through interdisciplinary research and development.

MISSION STATEMENT

- To develop a microbiological payload for ISRO's PSLV-4 initiative.
- To design, develop and test a rocket for Spaceport America Cup, New Mexico USA.
- To increase the participation of the students of RV College of Engineering in Space Research and Technological development in India.
- To participate in the research and development of innovative scientific payloads for sounding rockets and nano-satellites.



TEAM STRUCTURE



OUR PROJECTS

RVSAT-I

RVSAT-1 is a unique microbiological payload designed for ISRO's PS4 Orbital Platform. The objective of the payload is to perform the growth analysis on a microbe which could prove useful for future manned missions.

It is first of its kind in India and attempted by the undergraduate students under the supervision of eminent faculty from RV College of Engineering.



SPACECRAFT	RVSAT-1
MISSION TYPE	System Design and Verification
LAUNCH TYPE	Polar Leo
ORGANIZATION	R V College of Engineering®
LAUNCH AGENCY	ISRO
MASS	2.66 kg
DIMENSIONS	10 cm x 10 cm x 22.7 cm

TARA

Sounding rockets are one or two stage solid propellant rockets used for probing the upper atmospheric regions and for space research. The weight of the payload in these rocket ranges from 2 kilograms to 100 kilograms.

The TARA rocket is a step towards providing a platform for carrying out innovative research & experiments for 4 kilograms of payload capacity.



ROCKET	TARA
OBJECTIVE	Analyse vibrational effects on batteries
ORGANIZATION	R V College of Engineering®
PAYOUT CAPACITY	3 U
DRY MASS	27 kg
ALTITUDE	10,000 ft AGL (Above Ground Level)



INSIGHT

MODEL ROCKETRY

Sounding Model rockets are small scale rockets designed to reach an apogee of upto 2000 ft AGL with a mass not exceeding 2 kilograms.

They not only aim to provide an insight into the fundamentals of rocketry, but also help in validation and integrity of various other systems.

Insight-1 is the first iteration of our model rocket series with complete in-house manufacturing and SRAD motors.

ROCKET	INSIGHT-1
OBJECTIVE	To launch and recover a sub scale sounding rocket
ORGANIZATION	R V College of Engineering ®
PAYOUT CAPACITY	Nil
DRY MASS	2 kg
ALTITUDE	2000 ft AGL (Above Ground Level)

ACHIEVEMENTS

ICSS



Winners in student competition of design and implementation of space projects at International conference on Small Satellites, Hyderabad.

2019

QUEST INGENIUM



First Runners Up in Quest Ingenium, a platform for presentation of Engineering Projects. Voted as Best Project by QuEST Employees.

2018

ISRO WORLD SPACE WEEK



Bagged all six prizes in World Space Week conducted at URSC. Opportunity to tour ISRO-URSC facility for a day.

2018

IIA



Winner of National Level Competition on "Space Missions" held at Indian Institute of Astrophysics, Bengaluru.

2018

RESEARCH ACCOLADES

03 Papers



Three paper publications at the 69th International Astronautical Congress, 2018, Bremen, Germany

02 Papers



Two paper publications on Satellite Technological Day, 2018, URSC-ISRO, Bengaluru, India

03 Papers



Three paper publications at the 2nd ICMAE, 2018, Indore, India

01 Paper



One Paper publication at the (IEEE) International Conference for Convergence in Technology, 2018, Mangalore, India

03 Papers



One Conference paper and two Journal publications, 2018, India

RESEARCH ACCOLADES

01 Paper	10 Papers	01 Paper	01 Paper	01 Paper
 <p>One Paper publication at the International Aerospace Conference, 2019, Washington DC , USA</p>	 <p>Ten paper publications at the 70th International Astronautical Congress, 2019, Washington DC , USA</p>	 <p>One Paper publication at International Conference on Small Satellites, 2019, Hyderabad, India</p>	 <p>One paper publication at India International Science Festival, 2019, Kolkata, India</p>	 <p>One Paper publication at AIDAA, 2019, International Congress, Rome, Italy</p>

01 Poster	01 Paper	09 Papers	02 Papers	03 Papers
 <p>Poster publication at International Conference on Small Satellites, 2019 Hyderabad, India</p>	 <p>One Paper publication at IEEE Aerospace and Electronica Aeroconf, 2020, Big Sky, Montana</p>	 <p>Nine paper publications at the 71st International Astronautical Congress, 2020, The Cyberspace Edition</p>	 <p>Two paper publications at IEEE-AeroConf 2021</p>	 <p>Three paper publications at the 72nd International Astronautical Congress, 2021, Dubai, UAE</p>

14 Papers
 <p>14 paper publications at the 73rd International Astronautical Congress, 2022, Paris, France</p>

TOTAL
COUNT

56



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OUR RECENT MILESTONE

INSIGHT MK-1 LAUNCH

Insight-1 model rocket is a single-stage rocket weighing around 3 kgs, including its solid propulsion motor. It has the capability to ascend up to an altitude of 434 meters, remaining in flight for approximately 32 seconds. The rocket's stability has been carefully achieved with aerodynamic & structural analyses. The rocket's initial velocity off the launch pad is 7.55 meters per second, which gradually increases until it attains its maximum speed. Once it begins to descend from the apogee, the rocket deploys a single parachute in order to descend slowly back on ground. Insight 1 has been carefully designed and crafted by our dedicated team who have spent countless hours perfecting every detail.



Second of April, 2023 saw excitement in the air as the countdown began at 12:34 p.m. for the launch of the first iteration of our model rocket series, Insight 1. As the countdown neared its end, the tension in the air was palpable. Everyone held their breath as the rocket slowly lifted into position. Ignited with a remote ignition system, the motor roared to life, and flames shot out from the base of the rocket.



As the team celebrates their successful launch, we know that this is just the beginning. There are many more milestones to be achieved, and we are already brainstorming on how to achieve even better results. For now, though, we revel in the satisfaction of a job well done, knowing that we have pushed the boundaries of what is possible in the domain of model rockets.

OUR PARTNERS



TEAM
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