



## 7.3 Institutional Distinctiveness

### JIT Ground Station set up:

The Ground Station in JIT campus is named after Dr.KalpanaChawla, the first Indian origin woman went to space through a NASA Space Shuttle. Ground Station at JIT will receive and analyze data received from the Nano satellites and will be useful in space studies by both college and school students. The ground station lab has a well equipped set up with UHF-VHF antenna system, Clean Room, Antenna Rotator, Ground station, SDR, and software to track the satellite.



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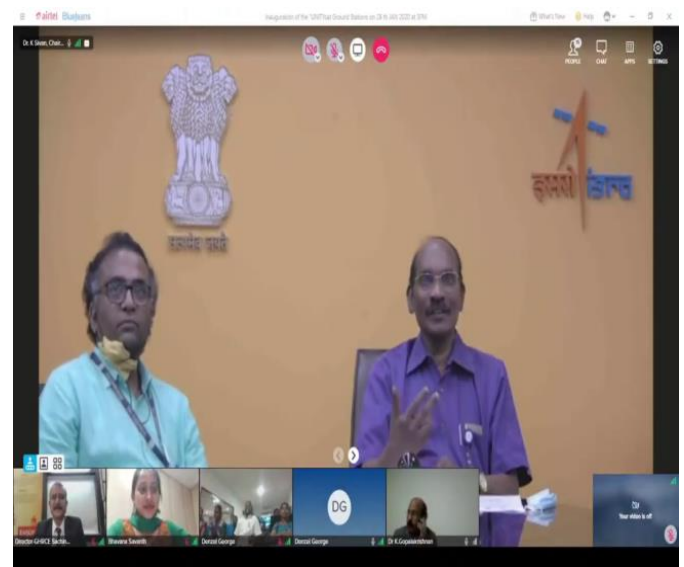
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## JIT Ground station Virtual Inaguration on 28-01-2021:

Indian space research organisation (ISRO) Chairman Dr.K.Sivan virtually inaugurated the Dr.KalpanaChawla Nano Satellite research lab UNITYsat , JIT- SAT Ground Station on January 28th 2021 at Jeppiaar Institute of Technology. Dr.N.Marie Wilson, Managing Director, Dr. K. Gopalakrishnan, UNITYsat consortium co-ordinator and Dr.L.M.Merlin Livingston, Principal graced the occasion with their esteemed presence.



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## CANSAT ONLINE TRAINING – Batch 2

JIT Nano satellite Research team have organized an online Phase I training on CANSAT to the students from **3.5.2021 to 28.5.2021** through virtual mode. Students were given with 30 hours online training, which includes Basic Electronics, ON Board computer (OBC), EPS(Electrical Power systems), Communication System, Navigation and payload, PCB Designing Using Autodesk EAGLE, 3D Designing Using Autodesk Fusion 360, Antenna Design Using CST, HAM Radio Basic Introduction, Programming OBC.

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Tarun Kumar is presenting

Suganya Madhan and 12 more

Meeting details

clideo.com

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Yuvanandhini T R is presenting

Delhi Ganesh J and 13 more

Meeting details

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Tarun Kumar is presenting

2 Board - C:\Users\Tarun Kumar\Documents\EAGLE\projects\air quality sat junctions\OB\Cuntitled.brd - EAGLE 9.5.2 premium [OFFLINE]

Board Information

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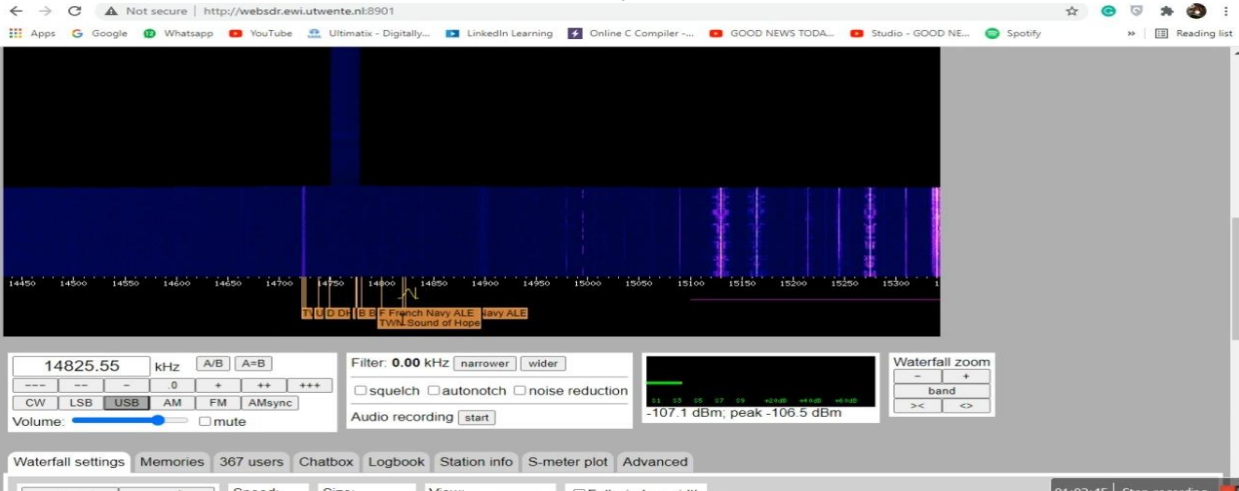


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The screenshot shows a Zoom meeting interface. The main display is a presentation slide titled "Tarun Kumar is presenting". The slide content includes a satellite image of Earth and a map overlay. The presentation controls at the bottom show "mrk-gvng-efc" as the presenter. The participant list on the right shows "You", "Tarun V", "Tarun Kumar", and "8 others".

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The student team and the faculty members covered the syllabus during the scheduled time. After the 30 hours training students will be able to,

- Design the CANSAT structure,
- Simulate the PCB model,
- Design Antenna,
- Program the LORA module etc.
- Capture and decode images from open source satellites.

## CANSAT HANDSON TRAINING- Batch 2

JIT Nano satellite Research team have organized Phase II training on CANSAT to the students from **18.10.2021 to 23.10.2021** through offline mode.

Students were given with the handson training on **Autodesk Eagle, Autodesk Fusion & 3D Printing, Soldering the electronic components in the PCB boards.** Each team worked with their

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own components and assembled their CANSATs. Finally they tested the designed CANSAT with program evaluation.

## Objective of the designed CANSAT:

To monitor and analyze the atmospheric parameters such as,

- Temperature
- Humidity
- Pressure
- Altitude
- Level of Methane, CNG Gas
- Level of Carbon Monoxide, flammable gasses
- Air Quality
- 3 axis gyroscope values



*L. Arundhan*

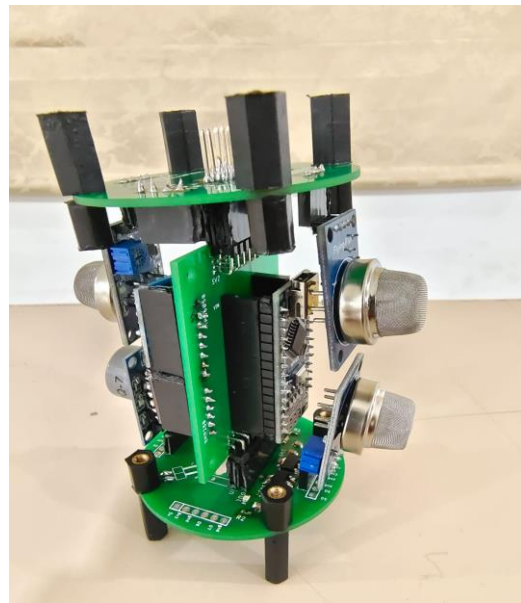
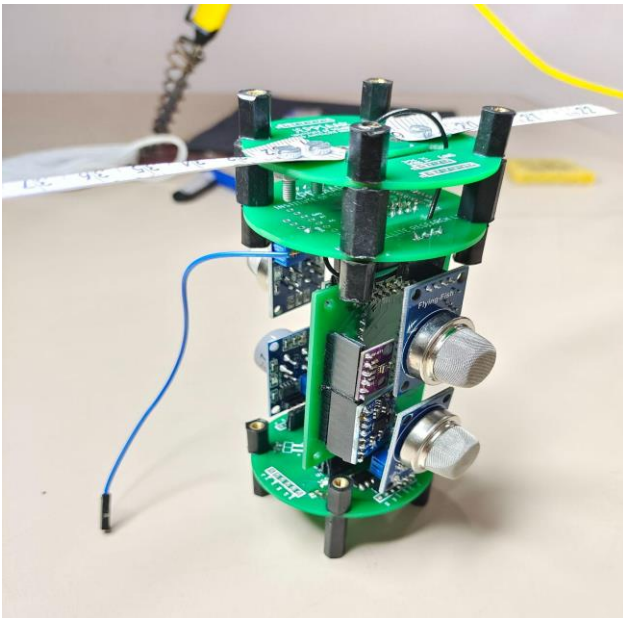
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## JIT CANSAT 2.0 LAUNCH & UNITYSat- JITSat II MOU SIGNING REPORT

Jeppiaar Institute of Technology, Nano satellite Research team successfully completed the **CANSAT 2.0 LAUNCH** on **DEC22, 2021** in the august presence of our honorable chief guest **Dr.Mylswamy Annadurai**, Vice President of Tamil Nadu State Council for Science and Technology(TNSCST) and **Dr.K.Gopalakrishnan**, Secretary General of University Space Engineering Consortium-India along with our beloved director **Dr.N.Marie Willson** and our respected principal **Dr.L.M.Merlin Livingston**.

### Welcome Ceremony By NSS Students

Dr.Mylswamy Annadurai and Dr.K Gopalakrishnan were cordially welcomed by our NSS students with our managing director and principal.



### Competitions And Prize Distribution For School Students:

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Students from various schools were participated in the events **“CRAFT AND PAINTING”** and **“SATELLITE MODEL MAKING”** Organized by the Nano satellite research team and all participants were received their participation certificates and top 3 participants got merit certificates awarded by **Dr.Mylswamy Annadurai**.



## Visit to R&D :

Dr.Mylswamy Annadurai visited the Dr.Kalpna Chawla Nano satellite research Center and JIT Ground station. The team presented the designed CANSAT Details, features and its objectives. He gave many insights to improvise the design during next launch.

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## MOU Signing Ceremony:

On the occasion of 75 years of independence, India is going to launch 75 satellites into space made by Indian students in schools and colleges. To strengthen science-based approach, India is promoting experience-based learning. JIT is also one of the college participating in the Mission and we signed the MOU on the same day.



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## CANSAT Launch

On the college ground, the **5 CANSAT** designed by the student team were launched using **drone**. The Cansat was inserted into the drone and it flew up to a distance of **150-200m**. It collected the data and transferred the data through RF Communication to the Ground station.



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The collected data includes, Temperature, Humidity, Pressure, Altitude, Level of Methane, CNG Gas, Level of Carbon Monoxide, Level of Carbon Monoxide, flammable gasses, Air Quality, 3 axis gyroscope values, which were collected and displayed successfully in the ground station connected display to the chief guest.

## **Participation in WCRC -2023, Novi Sad, Serbia**

Team of 3 students and a Mentor participated in World CANSAT Rocketry Competition held at Serbia during September 25-28, 2022. The team was fully sponsored by our institution.

Students designed a CANSAT of weight about 140g satisfying the mission objectives. Rocket was launched successfully and cansat also deployed and landed successfully with the help of parachutes. The data was collected successfully at the ground station and displayed to judges. The team received special Global JURY Award.

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