



STUDENT SATELLITE CLUB-PARIKRAMA

Electronics & Telecommunication Engineering Department

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Editor: Prof. Mohini Naik

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OBJECTIVES

The idea of Student Satellite Club is to encourage DBCE Students to build their own satellite and earth station and get hands-on experience in developing different systems for the same. This project will also help them to reduce the gap between industry and academia.

This project will also provide a good platform to faculty members to showcase their technical expertise which can be further tap with consultancy work. Establishing Satellite earth station and satellite making based research is an important aspect of showing research strength to the outside world. In order to develop practical hands on communication, it is essential to study the operation of satellite

experiments under realistic conditions. The main objectives of this research proposal are multi-folds as follows:

- To develop the basic infrastructure for the earth station and student satellite.
- To integrate simulation, theoretical, and experimental study.
- To develop mechanical, electrical and power system for the satellite.
- To impart training to faculty members and students to have hands on training in running earth station and developing satellite system.
- To develop remote sensing sub systems
- To develop software module in tracking satellite and analysing the data.
- To develop telemetry-communication system
- To develop the visualization tools/modules for satellite system management and analysing.



Source: earth.google.com

COMMITTEE MEMEBERS

Committee:

Principal Investigators:

Dr. Varsha Turkar, Head ETC, Don Bosco College of Engineering

Prof. Mohini Naik, Assistant Professor ETC, Don Bosco College of Engineering

Prof. Sweta Morajkar, Assistant Professor COMP, Don Bosco College of Engineering

Prof. Ramnath Prabhu, Assistant Professor MECH, Don Bosco College of Engineering

No	Program me	Year	Name of the student	Designation
1	ETC	SE	Rahul Kothru	Member
2			Saurabh Prabhu	Member
3			Simran Vernekar	Member
4			Vaishabh Jalmi	Member
5			Musab Shaikh	Project Manager
6			Raj Kubal	Member
7		FE	Cyndroy Rebello	Member
8			Krupashri Koli	Project Manager
9			Manesh Borkar	Member
10	COMP	SE	Tanvi Shetye	Member
11			Sakshi Kadam	Member
12			Yash Diniz	Member
13			Everad Leitao	Project Manager
14	MECH	SE	Vivian Viegas	Member
15			Benecia Colaco	Member
16			Aloysius	Member
17			Johan Silveira	Member

No	Programme	Name of the student	Designation
18	ETC	Neha Joshi	Member
19		Andrea Peixoto	Member
20		Jefin Sam John	Member
21	COMP	Rea Dsouza	Member
22		Oysturn Vas	Member
23		Alston Dias	Member
24	MECH	Lemuel De Cunha	Member
25		Ayisha Shaik	Member
26	CIVIL	Mohammad Ikram	Member
27		Ravindra Gurav	Member

HAM radio licensing examination 2021

Student Satellite Club-Parikrama organized a HAM Radio examination on 28th February 2021 from 10:30 am to 3:30 pm at Don Bosco college of Engineering.

The ham radio licensing examination is known as the Amateur Station Operator's Certificate Examination (ASOC examination). It is conducted by the Wireless Planning and Coordination (WPC) wing of the Ministry of Communications, New Delhi at the Wireless Monitoring Stations located throughout the country.

There were total of 40 student's registrations from Goa and Maharashtra. Student satellite members also appeared for the examination for both the grades i.e. restricted and general license. The examination was conducted by Shri Nalnish Srivastava, Wireless Monitoring station officer from Bhopal and his team from WMS Goa. The examination was divided in two parts written exam and practical exam of the moorse code transmission and reception. The entire event was coordinated by Prof.Mohini Naik, PI of satellite club, ETC Department and Prof. Sweta Morajkar, CO-PI of satellite club, COMP Department.



Wireless Monitoring station officer Shri Nalnish Srivastava with the team



Written Exam



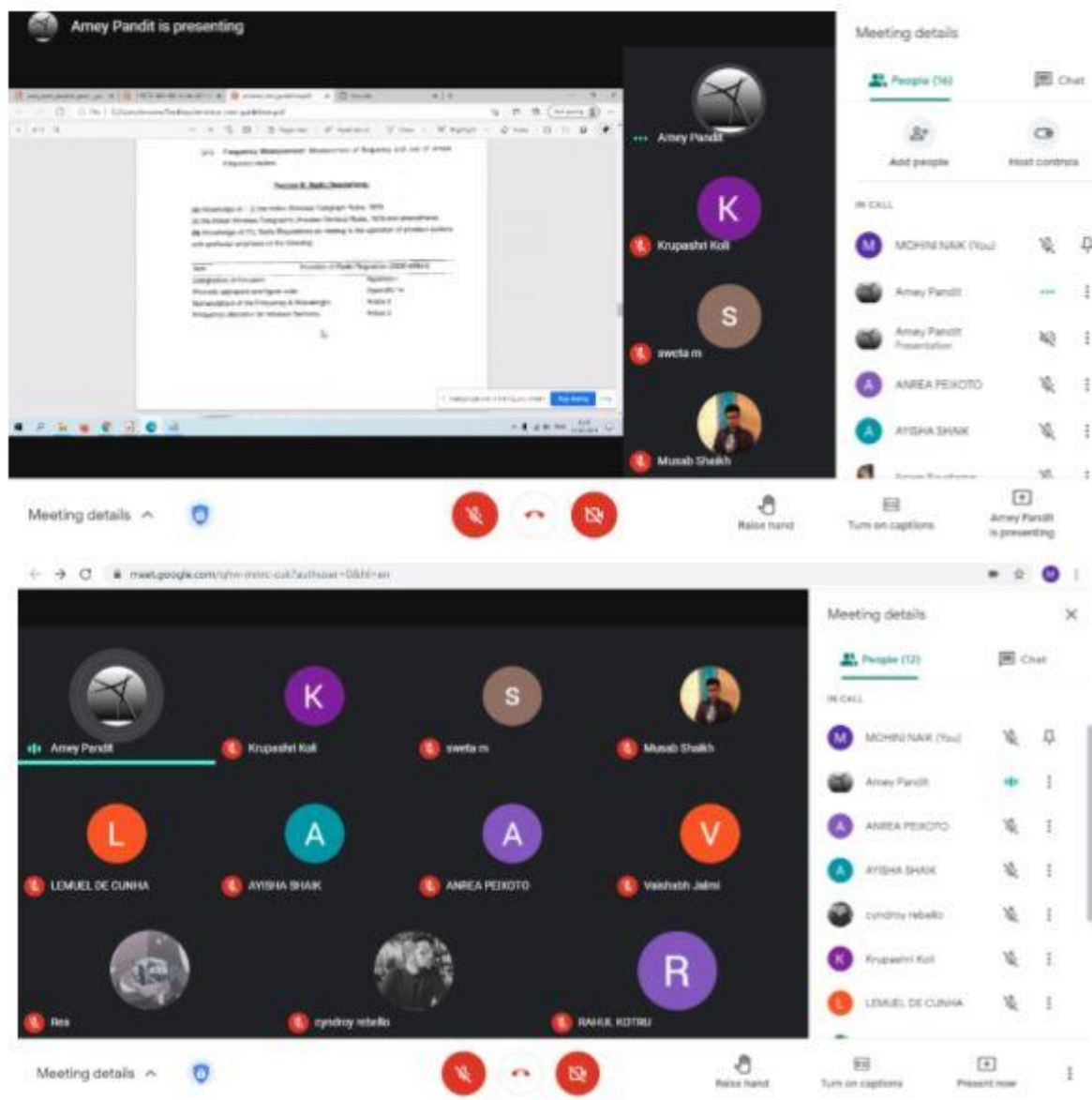
Practical Exam—Moorse code
Transmission & Reception

STUDENT'S CORNER

Guest lecture on Amateur Radio and HAM radio examination

Student Satellite Club-Parikrama, Don Bosco College of Engineering, Fatorda, organized a guest lecture on Amateur Radio and HAM radio examination on February 25, 2021. Mr. Amey Pandit was the speaker for the program. He is an embedded system design engineer by profession and HAM with call sign VU2YQ.

Mr. Amey Pandit started the session by introducing the Amateur Radio and benefits of becoming HAM radio operator. He also discussed the paper pattern and syllabus for the HAM exam. This lecture benefited all the members of the club and also those who will be answering the exam. The entire event was coordinated by Prof. Mohini Naik, PI of satellite club, ETC Department.



PROJECTS

Ground Station Development

Student satellite Club-Parikrama has successfully established the ground station at the Don Bosco College of Engineering. The developed Ground station could receive the data from the NOAA satellite. The entire ground station setup is designed and developed in the campus by the active members of the club.

This project consists of Antenna, SDR, WXtoImg and SDR sharp software installed in the laptop in such way that is possible to visualize the each pass of the satellites exactly over the ground receiving station.

WXtoImg is a free weather satellite decoding program which can decode the Automatic Picture Transmission (APT) signal received from low earth orbit satellites that is integrated with SDR sharp. The exact pass of the satellites is found from the heavens above app and the signal is received to the SDR sharp from antenna and SDR dongle connected to our personal computer. Once the pass is over, the received signal is plotted using decoding software which gave weather report. Antenna used here is handmade crossed Yagi antenna. The entire project is guided by Prof. Mohini Naik- PI of the satellite club. This project received motivation from PI & Head of ETC Department, Dr. Varsha Turkar.

Rev. Fr. Kinley D’cruz, Director and Dr. Neena S.P. Panandikar, Principal of Don Bosco College of Engineering, encouraged ground station team to achieve more mile stones in the space technology.

Parikrama satellite club of the Don Bosco College of Engineering always takes the initiatives to explore in research, and innovation along with the all-round development of the students to make future ready.



Receiving Image of SSTV from the ISS

Satellite club Member Mr. Vaishabh Jalmi with call sign VU3IAG, received SSTV images from the International Space station commemorating Lunar exploration. The images were sent via an amateur radio system installed on the Russian segment of the international space station during December 26-31, 2021. He also received CZECH SSTV AWARD.



SSTV Images received by Mr. Vaishabh Jalmi (VU3IAG)



Appreciation from the SPACE AGENCIES for tracking images

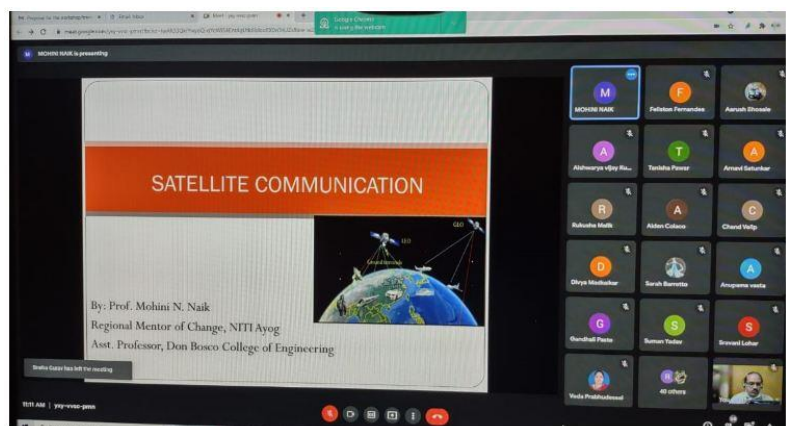


CZECH AWARD

Community Outreach in association with Goa Science Centre, Ministry of Culture, Government of India

Goa Science Centre has organized a STEM workshop for girls to motivate them to pursue STEM education on the July 16, 2021 via google meet from 11.00 AM to 12:30 AM. Prof. Mohini Naik, Regional Mentor of change (NITI AYOJ) & Asst. Prof. – Department of ETC, Don Bosco College of Engineering was invited as the resource person for the session. The session was attended by the 70 + students all around Goa from 7th to 10th standard. Prof. Mohini Naik gave a talk on satellite communication and its applications.

In her session, Prof. Mohini Naik, said that “This is the latest growing technology and to motivate students to work in the area of science, imparting STEM education is the most important”. She covered various topics such as the basics of satellite communication, satellite launch, ISS basics etc. The STEM workshop was focussed on girl education to pursue higher studies. The entire program was coordinated by Shri Venkata Durga Prasad K, Project Coordinator, Goa science centre. The Program received good feedback from the entire student community.



Congratulations for Clearing Amateur Station EXAM 2021

We are pleased to announce that the following members of Satellite club-Parikrama have cleared the Amateur station exam 2021 which was conducted by Wireless Monitoring Station (WMS) Goa.



Prof. Mohini Naik Gadekar
Satellite club- PI



Mr. Vaishabh Jalmi
BE ETC



Ms. Anrea Peixoto
SE ETC



Mr. Lemuel De Cunha
SE MECH



Ms. Aiysha Shaik
SE MECH



Ms. Rea D'Souza
SE COMP

Upcoming Projects

- Tracking NOAA satellite data using complete ground station developed by the members of the satellite club.
- Design and fabrication of VHF band antenna's