SREYAS

INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi | Affiliated to JNTUH, Hyderabad | Accredited by NAAC & NBA)

Hyderabad | PIN: 500068

**Department of Electronics and Communication Engineering**

# REPORT ON

# ONE WEEK ONLINE FDP ON RF TECHNOLOGY FOR ENERGY HARVESTING, MEDICAL, AND COMMERCIAL APPLICATIONS (14th to 18th December 2020)

One week online FDP on RFTEMC2020 proposed, and initiated by the Dept. of ECE, and immediately got approved from the Principal, and the Management of Sreyas Institute of Engineering and Technology. 208 participates have registered for the FDP. We are happy to inform you that maximum participants are from all the parts of India, and we received two international participants from Russia and Dubai.

The following topics have focused in the FDP:

- Microwave Communication
- Design and Implementation of Antennas for Industrial Applications
- RF technology for concealed target detection using radio tomography
- Computational electromagnetic for medical applications
- EMI/EMC
- Liquid Antennas for advanced communication systems.
- Fractal array antennas and applications.
- Microwave Imaging.

The detailed day wise report as follows,

## DAY.1

First day of the program have started by the inaugural address by the Principal Dr. S. Sai Satyanarayana Reddy, Chief guest Prof. P. V. Y. Jayasree, Convener Prof. B. Sreenivasu, and the coordinator, Dr. V. A. Sankar Ponnapalli. Chief guest emphasized on the importance of high frequency electronics for various applications.

Resource person of the Session.1 of the first day, Prof. P. V. Y. Jayasree from GITAM discussed about the EMI/EMC issues, various sources for emi sources observed in day-to-day life, and how

to avoid interference issues. Resource person explained few case studies on EM interference issues.

Resource person of the Session.2 of the first day, Dr. D. Rama Krishna from Osmania University delivered his lecture on reconfigurable antennas for advanced wireless applications. He showcased various RECONFIGURABLE antennas for 5G and other advanced applications, developed by the centre of excellence microwave lab of ECE Department, OU.

**DAY.2**

Session.1 of the Day.2 started with the resource lecture by Prof. S. Raghavan from Department of ECE, NIT Tirchy. Prof. Raghavan shared his vast experience in microwave engineering, and basically concentrated on the transmission lines for planar antennas.

Session.2 of the Day.1 stared with the resource lecture by Dr. Swtha amit from M.S. Ramaiah Institute of Technology, and she concentrated on the advanced antenna model, (i.e.) liquid antennas. She is also shared their research work on liquid antennas, and suggested research ideas on these antennas.

**DAY.3**

Session.1. of the Day.3 carried out by the Dr. M. Nanda Kumar from Dept. of ECE, Sreenidhi Institute of Science and Technology Hyderabad. He is concentrated on the one of the trending topic in antenna design (i.e.) wearable antennas, and suggested few research ideas for young researchers.

Session.2 of the Day.3, Dr. Amit R Azad from BITS Pilani Hyderabad given a resource lecture on Microwave filters, and substrate integrated waveguides (SIW's).

**DAY.4**

Session.1 of the Day.4, Started with the presentation of Dr. E. Mallikarjun from Dept. of ECE, NIT Goa, and He concentrated on the Microwave Imaging and application in medical, military, and commercial applications.

Session.2 of the Day.4 taken by the both Dr. Nanda Kumar from SNIST, and Dr. V. A. Sankar Ponnapalli from Dept. of ECE, Sreyas IET. Dr. Nanda Kumar concentrated on the SIW antennas and recent applications. Dr. V. A. Sankar Ponnapalli focused on fractal array antennas and applications, and also discussed about the research ideas on fractal arrays.

**Day.5**

Session.1 of the Day.5, Dr. Shivaraj M Rathod from Defence R&D unit of Bharat Forge Limited, Pune. Dr. Shivaraj concented on the RF technology for concealed target detection using Radio Tomography, and Microwave imaging concepts. He also explained about the internship and training programs in RF & Microwave Engineering provided by Bharat Forge unit. Session.2 of the Day.5, taken by the Dr. T. Shanmuganatham from Pondicherry Central University, Pondicherry on one of the trending topic (i.e.) fractal metamaterial antennas, and he explained about the various design aspects of fractal based metamaterial antennas.

## Resource Persons

| Name | Designation & Affiliation |
|---|---|
| Dr. S. Raghavan | Dept. of ECE<br>Professor (Retd.), NIT Trichy |
| Dr. T. Shanmuganantham | Associate Professor<br>Dept. of Electronics Engineering, School of Engineering and Technology, Pondicherry Central University, Pondicherry. |
| Dr. P. V. Y. Jayasree | Professor<br>Dept. of Electronics and Communication Engineering<br>GITAM (Deemed to be University),<br>Visakhapatnam |
| Dr. D. Rama Krishna | Associate Professor,<br>Dept. of Electronics and Communication Engineering<br>Osmania University, Hyderabad |
| Dr. E. Mallikarjun | Assistant Professor,<br>Dept. of Electronics and Communication Engineering,<br>NIT Goa |
| Dr. Nanda Kumar | Assistant Professor,<br>Dept. of Electronics and Communication Engineering,<br>SNIST Hyderabad |
| Dr. Shiva Raj Rathod | Assistant Manager (Defense R&D)<br>Bharat Forge, Pune |
| Dr. Amit Ranjan Azad | Assistant Professor<br>Department of Electrical and Electronics Engineering<br>Birla Institute of Technology and Science, Pilani<br>Hyderabad Campus |
| Dr.Swetha Amit | Assistant Professor<br>Department of Electrical and Electronics Engineering<br>M S Ramaiah Institute of Technology<br>Bangalore |
| Dr. V. A. Sankar Ponnapalli | Associate Professor<br>Dept. of Electronics and Communication Engineering<br>Sreyas IET Hyderabad |

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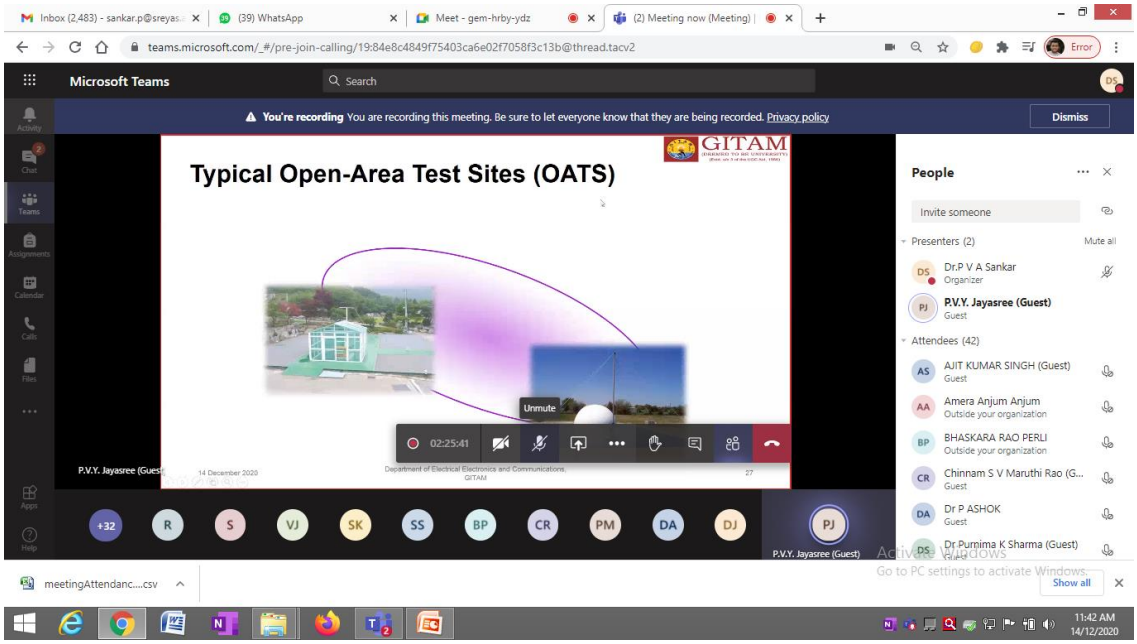
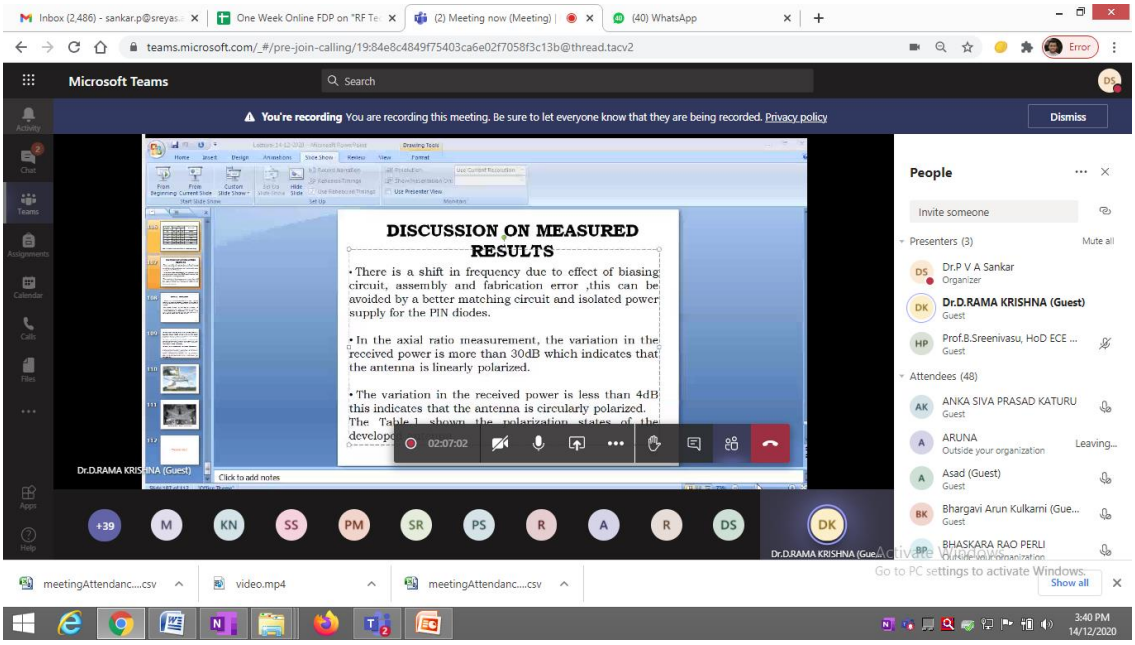
## SESSION WISE SCREENSHOTS

### DAY.1. SESSION-1




### DAY.1. SESSION-2



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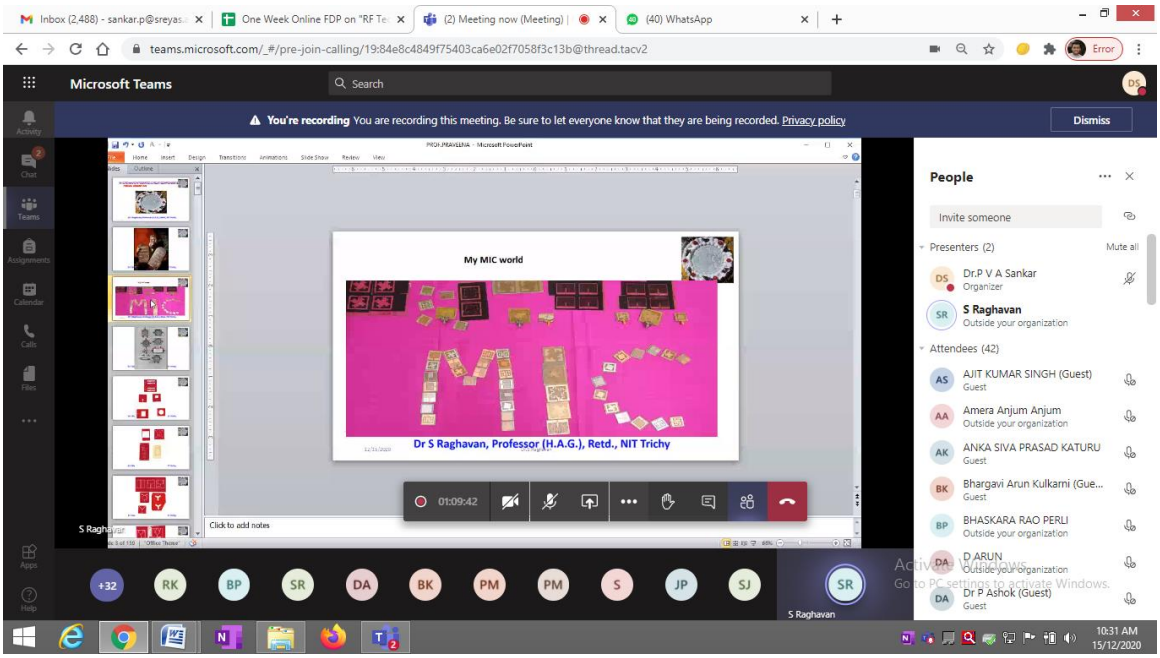
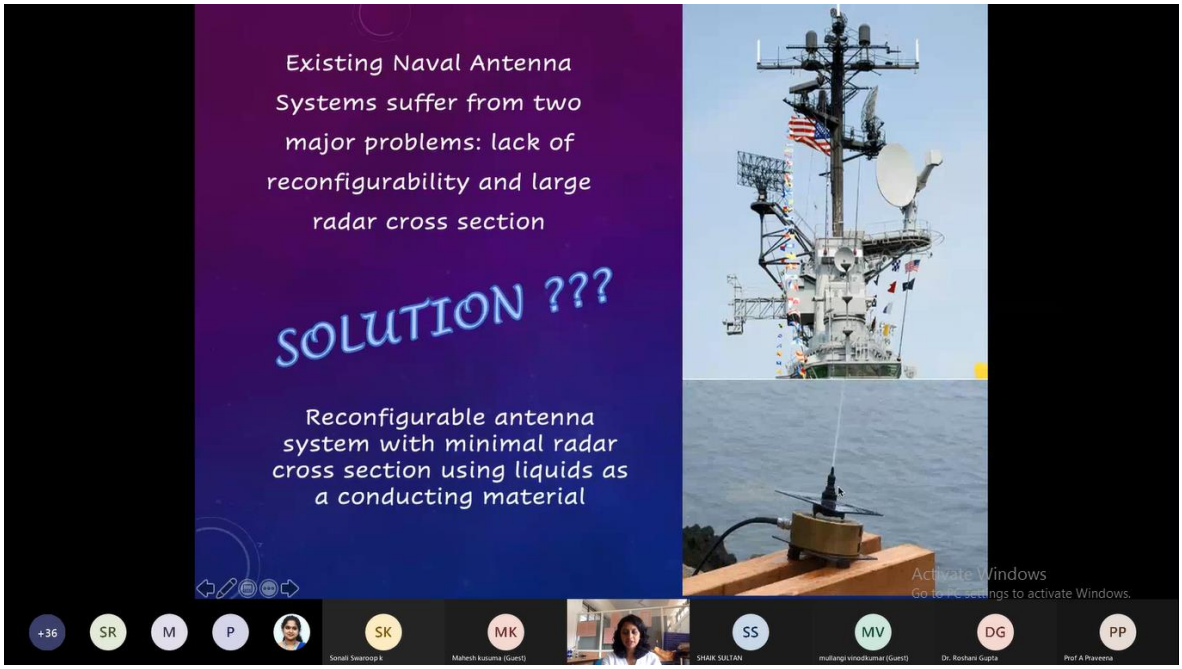
## DAY.2. SESSION.1




## DAY.2.SESSION.2



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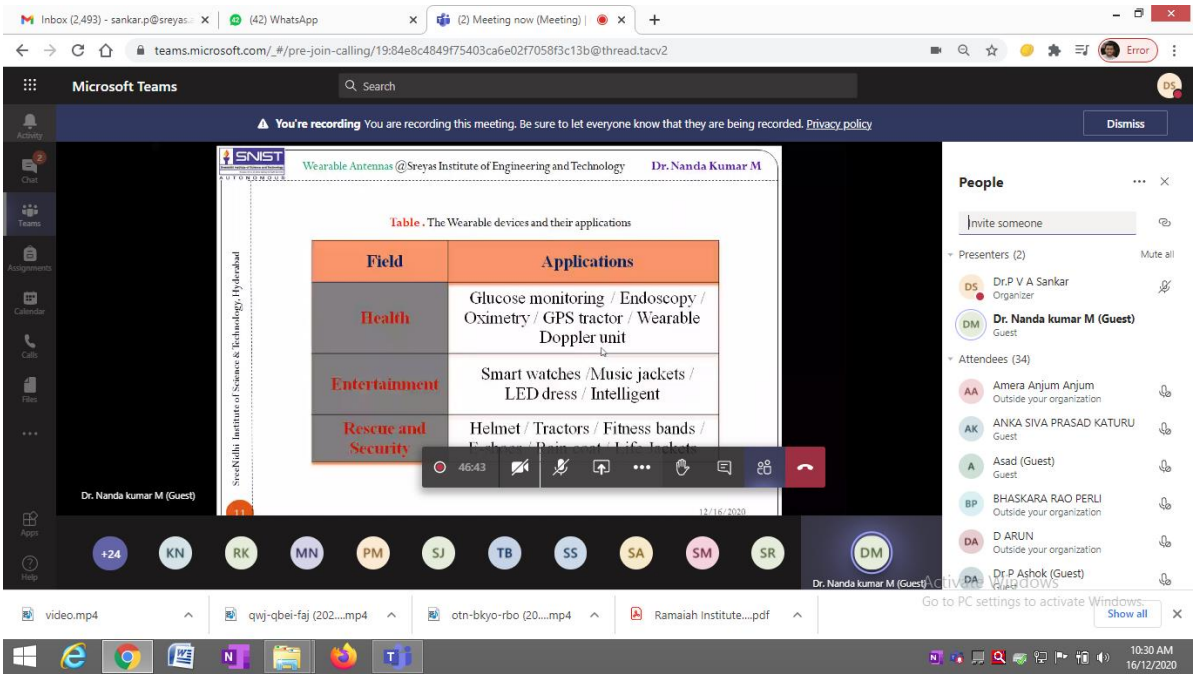
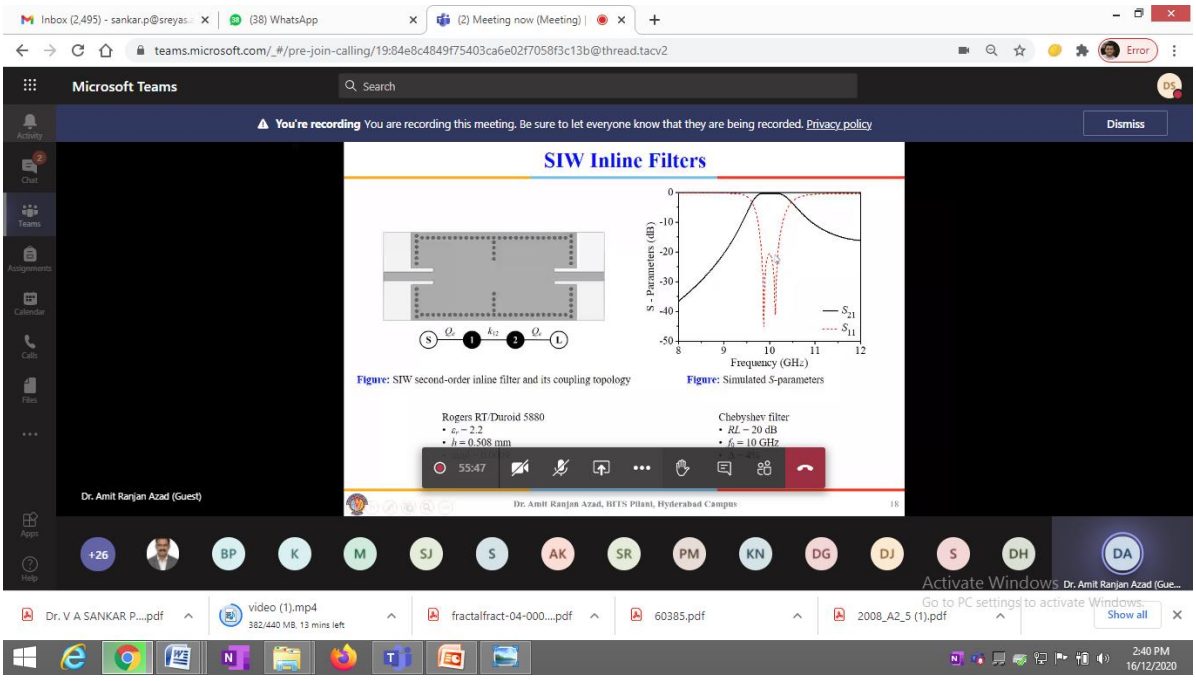
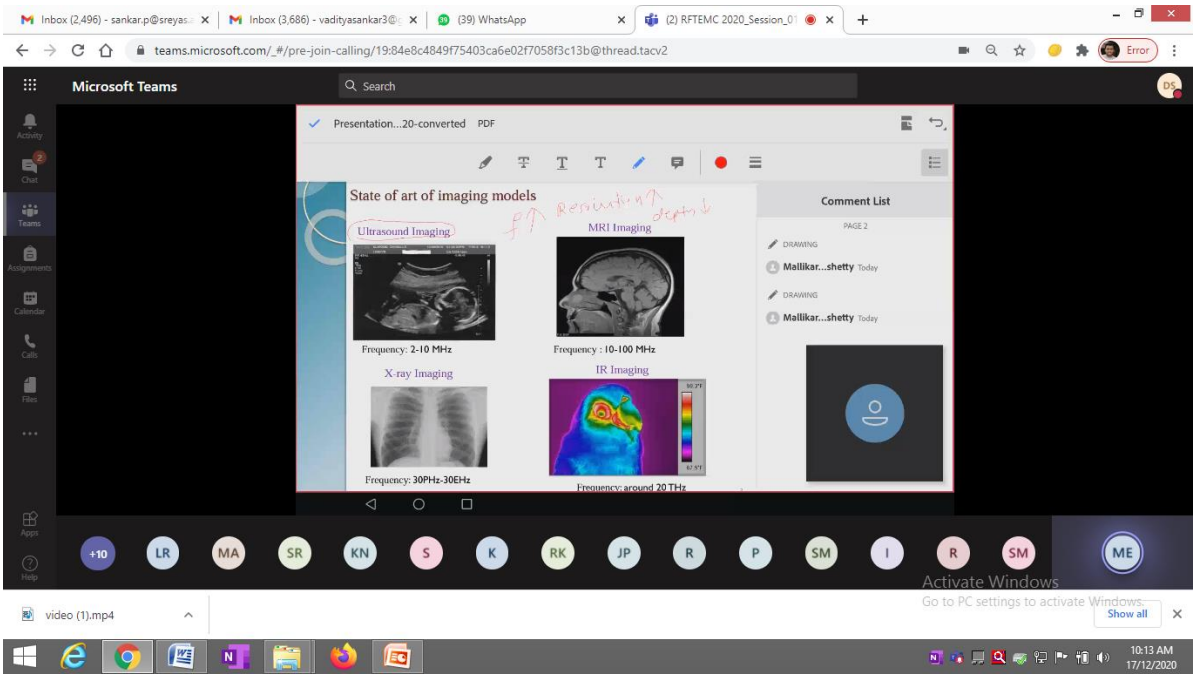
## DAY.3. SESSION.1



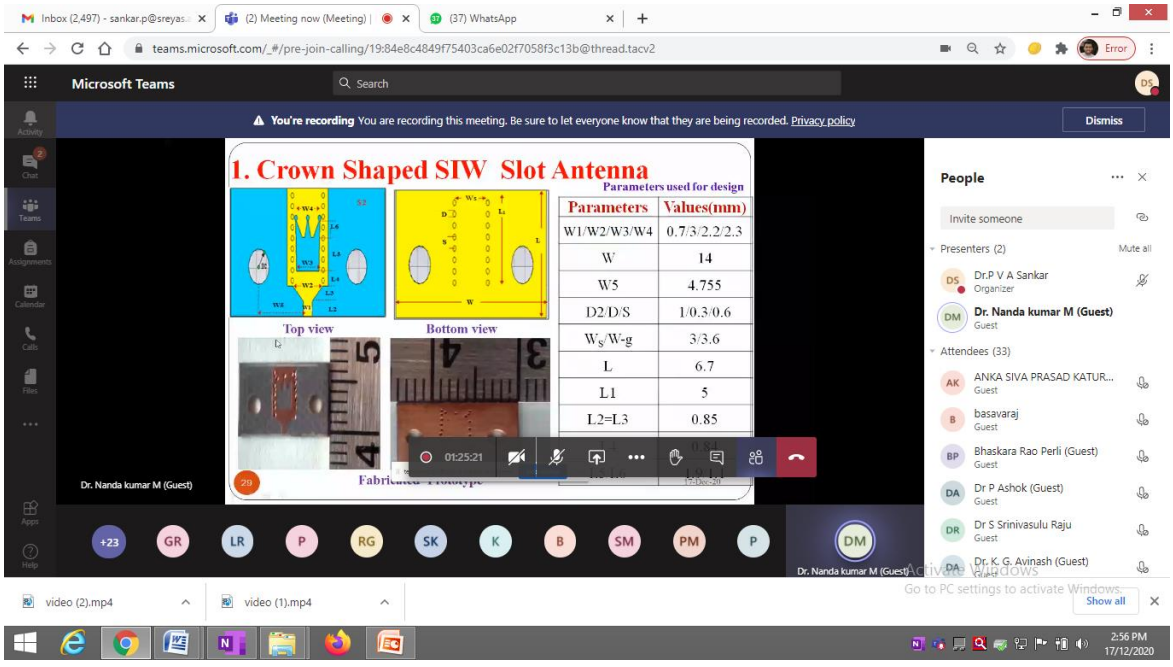

## DAY.3. SESSION.2



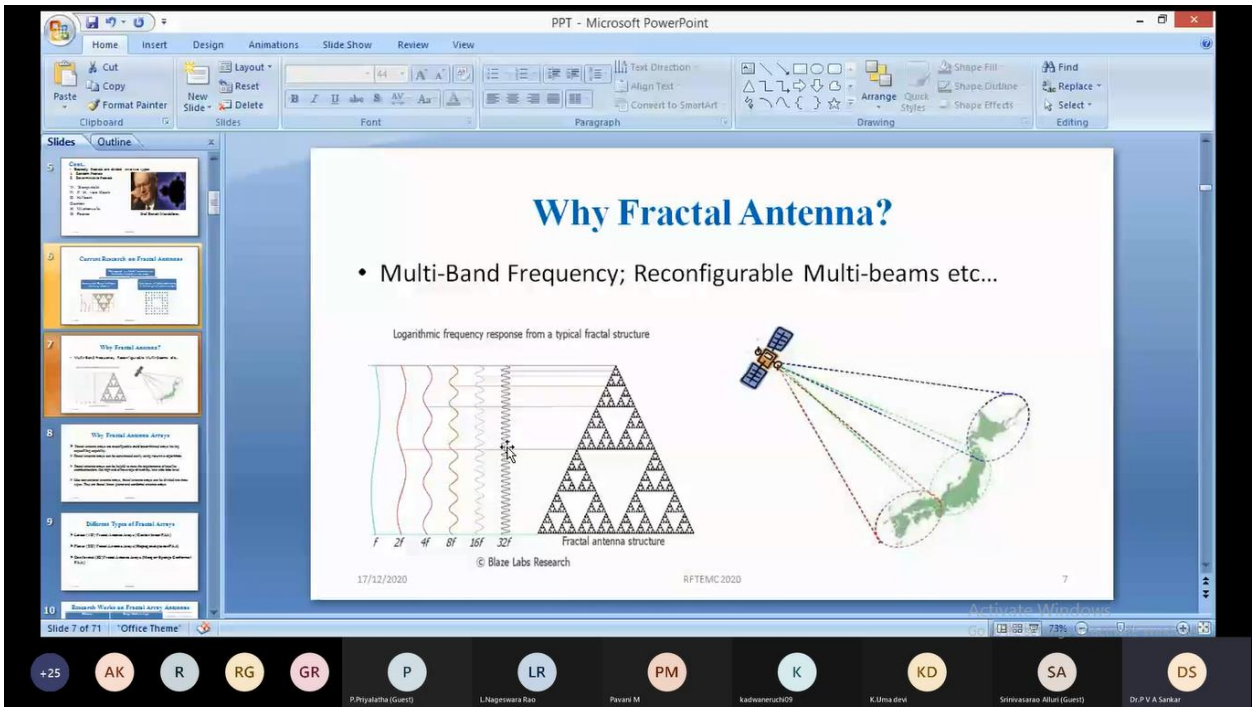
## DAY.4. SESSION.1

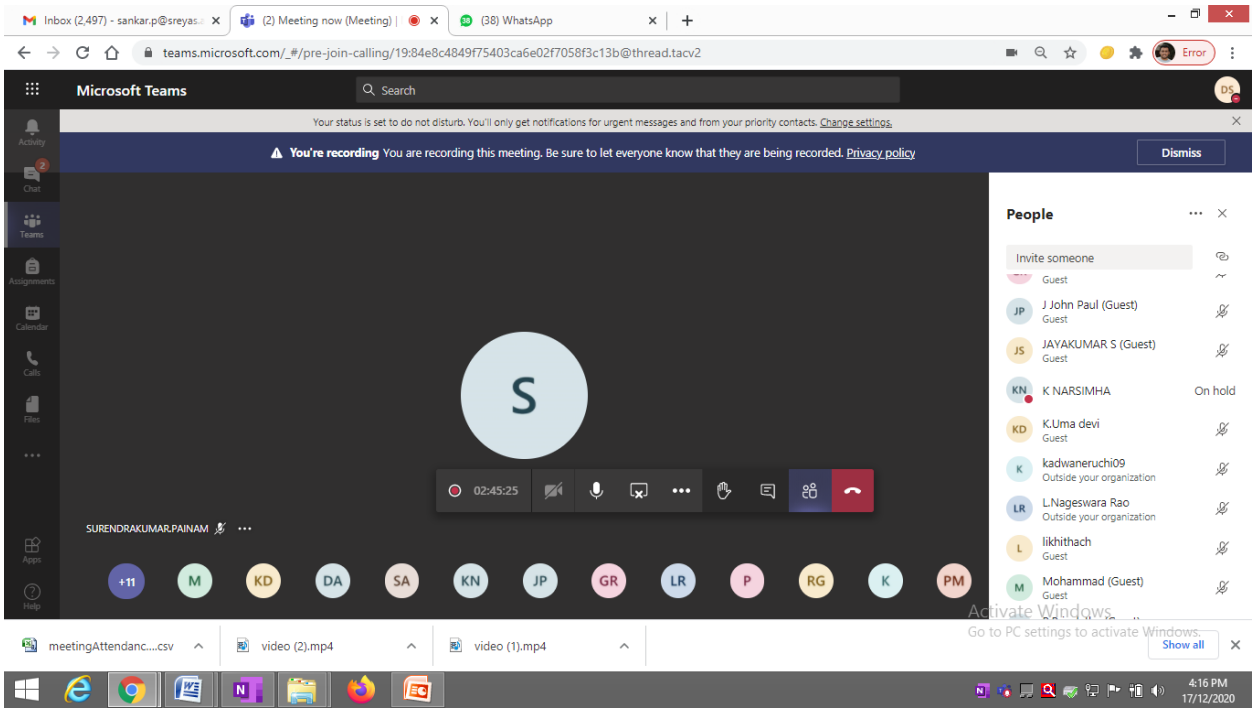



## DAY.4.SESSION.2 (a)

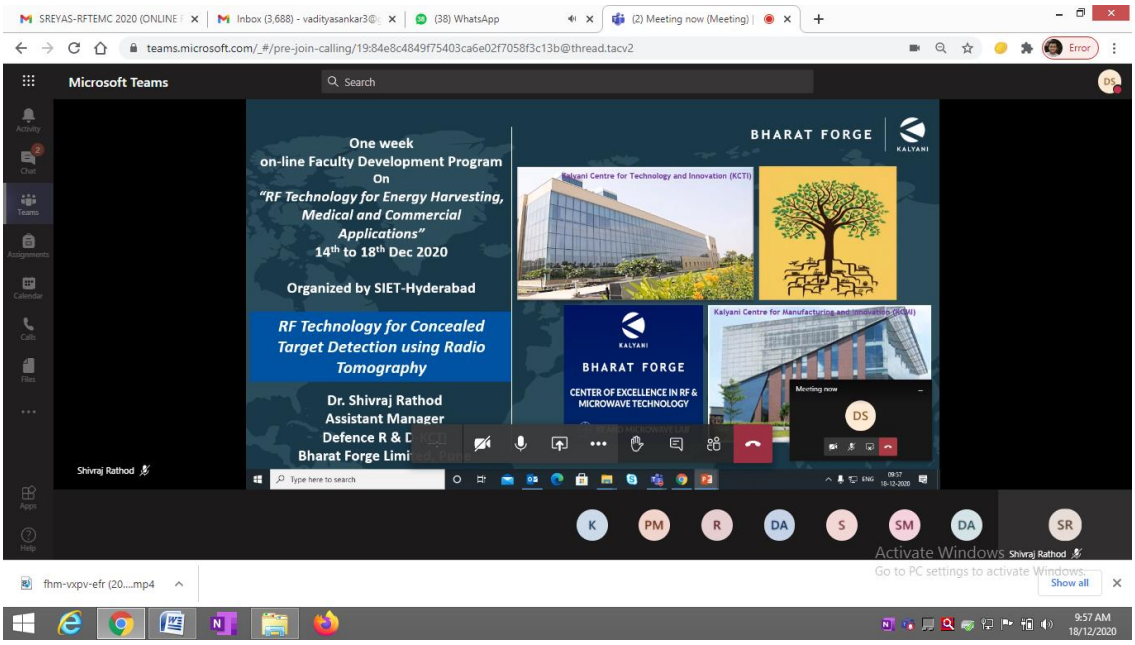


# DAY.4.SESSION.2(b)

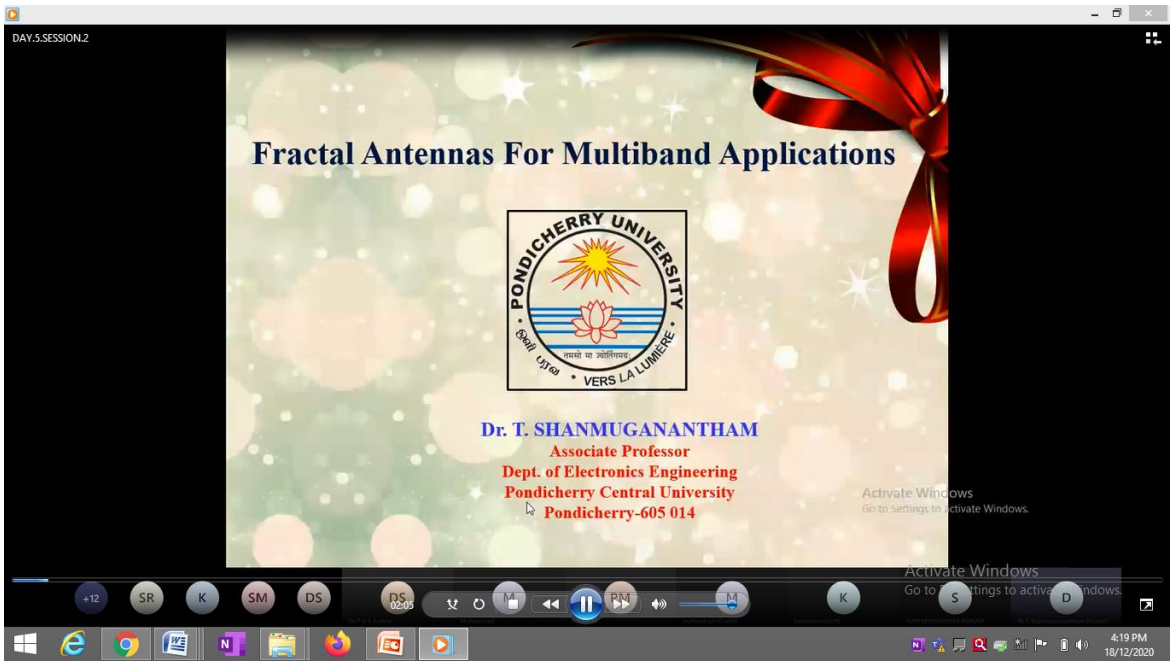


## DAY.5.SESSION.1




## DAY.5.SESSION.2



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Mr. Y. Sravan Kumar, ECE

## Resource Persons

**Dr. S. Raghavan**
Professor (Retd.), NIT Trichy.

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IEEE Antenna and Wave Propagation Society Chairman, Madras Section, Assoc. Professor, Pondicherry Central University, Pondicherry.

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Professor, GITAM (Deemed to be University), Visakhapatnam.

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**Dr. Amit Ranjan Azad**
Assistant Professor,BITS Pilani, Hyderabad.

**Prof. Vinod Babu P**
Assistant Professor, RGUKT Nuzvid.

**Dr. Swetha Amit**
Asst. Professor, M. S. Ramaiah Institute of Technology, Bangalore.

**Dr. Nanda Kumar**
Assistant Professor, SNIST, Hyderabad.

**Dr. V. A. Sankar Ponnapalli**
Associate Professor, SIET, Hyderabad.

## Registration Link

https://docs.google.com/forms/d/e/1FAIpQLSegMOGoBSoCfLSpgz-iZeSjFEGPVW2JnOm3dHAmhkLdNHY3A/viewform?usp=sf_link

## Contact Us

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SREYAS
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One Week Online Faculty Development Programme
On
**RF TECHNOLOGY FOR ENERGY HARVESTING, MEDICAL, AND COMMERCIAL APPLICATIONS.**
**(14th December to 18th December, 2020)**

Organized by:
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## About SIET:

Sreyas Institute of Engineering and Technology (SIET), sponsored by Sreyas Educational Society is established in the year 2011 in the state of Telangana by eminent educationists with a social conscience and commitment. The institution with a vision of serving the society through value-based education has been making a mark in the educational map of this region. Sreyas Institute is located in a sprawling campus of about 10.02 acres, amidst sylvan surroundings with aesthetically built infrastructure.

The institute offers academic programs with innovative curriculum, advanced research in cutting-edge technologies and societal engagement through outreach activities. It has grown in its size and stature

over the years with an initial intake of 300 to 720 students. The placements have reached new avenues with more than 300+ companies conducted interviews. Within a span of short time the Institute has grown in all the dimensions.

SIET is one of the premier Engineering Colleges in Telangana. The institute currently offers six undergraduate programmes (B. Tech) – Computer Science and Engineering; CSE Data Science; CSE Artificial Intelligence and Machine Learning; Electronics and Communication Engineering ; Mechanical Engineering and Civil Engineering. The institution was accredited by NAAC and by National Board of Accreditation (NBA).

## About the Department:

The Department of Electronics and Communication Engineering was established in the year 2011 with an intake of 120 students and is increased to 240 in the year 2013. The main objective of the Department is to impart students with the knowledge of innovation, research and ethics. All through its sparkling history of 9 years, the Department of ECE has been known for its exceptionally strong Under-Graduate and Post Graduate programs. One student of this department was awarded with a Gold Medal by JNTUH for his exceptional performance in UG with 86% and is ranked third in the university in the year 2018. Many students from the department are either pursuing their Master's in various reputed universities around the world or working in reputed IT companies like TCS, CTS, Accenture etc. The Department has around 35 well qualified and experienced faculties. The Department has 13 well equipped laboratories and well stacked department library.

## The major attractions of the Department:

- The Centre of Excellence (COE) to provide a student leadership, best practices, research, support and/or training to meet the industrial standards in four major areas like Signal Processing and Communication Systems, VLSI, IoT and Antennas .
- We have Established CISCO Centre of Excellence Laboratory under Cisco Networking Academy where many students have undergone training for practical sessions to meet industry requirements.
- We have Remote Centre for IIRS Dehradun and IIT Mumbai.
- IEEE student chapter, ISTE, NPTEL Local chapter to facilitate effective interaction with the industry and academia through seminars / symposia/ workshops.
- Total number of Faculty publications in last 3 years is around 110.
- We have strong group of well experienced faculties who give GATE coaching to the students within the college hours
- There are 4 Ph.D holders and most of the faculties are pursuing Ph.D.

## About FDP:

This FDP will provide an opportunity to highlight recent trends and developments in the field of high frequency electronics, and communication systems. It will further give impetus to the participants towards bringing out newer and efficient techniques. Expert invited speakers from both industry and academia with their vast research experience in various fields will arouse the participants for the development of communication engineering.

**The following topics are focused in the FDP:**

- Microwave Communication.
- Design and Implementation of Antennas for Industrial Applications.
- RF technology for concealed target detection using radio tomography.
- Computational electromagnetic for medical applications EMI/EMC.
- Liquid Antennas for advanced communication systems.
- Fractal array antennas and applications.
- Advanced CAD tools for Antenna and high frequency circuit design.

## Eligibility:

Faculty members, Ph.D Scholars, and PG students from AICTE approved engineering colleges and institutions, and R&D organizations.

# Memorable Event Photos from FDP