



Department of Electrical & Electronics Engineering

AICTE-ISTE INDUCTION / REFRESHER PROGRAMME

on

SOLAR PV SYSTEM DESIGN USING IoT

Phase-I: March 3rd to March 9th 2021

Chief Patron

Dr. M. Sivanandham, Secretary, SVEHT

Patron

Dr. S. Ganesh Vaidyanathan, Principal, SVCE

Convener

Dr. KR. Santha, Vice-Principal

Coordinators

Dr. KR. Santha, Professor & Head / EEE

Dr. C. Gopinath, Associate Professor / EEE

Mr.D.S.Purushothaman, Asst.Professor / EEE

Co-Coordinator

Ms.M.Sasikala, Asst.Professor / EEE

Mr. S. S. Sethuraman, Asst. Professor/EEE

Dr. M. Sankar, Asst.Professor / EEE

Mr. C.Kamal, Asst. Professor / EEE

Ms.M.Maadhuri, Asst .Professor / EEE

ABOUT THE INSTITUTION

Sri Venkateswara College of Engineering (SVCE), a premier self-financing Engineering College was started in the year 1985 and is managed by Sri Venkateswara Educational and Health Trust. The college conducts 11 B.E / B.Tech Degree Courses and 8 PG Courses in Engineering. The college has 11 Research Centers approved by Anna University cater to MS (by Research) and PhD programmes. The courses are approved by AICTE and affiliated to Anna University, Chennai. The college received Autonomous status in 2016. The college is accredited by National Assessment and Accreditation Council (NAAC). The college is situated in serene environment about 37 km from Chennai and situated on the way of Chennai – Bangalore National Highway (NH4) at Pennalur, Sriperumbudur, in Kanchipuram district.

ABOUT THE DEPARTMENT

The Department of EEE was started in the year 1994. The post graduate program (M.E) in Power Electronics and Drives was started in 2002. The department has secured permanent affiliation with Anna University and accredited by National Board of Accreditation (NBA) for the third consecutive time of Full Accreditation for five years. The Department has well equipped state-of-the-art laboratories and recognized as a Research Centre by Anna University. The Department has well qualified and experienced faculty and staff of proven ability and profound skills.

ABOUT THE REFRESHER PROGRAM

The AICTE-ISTE refreshment program is essential for the teachers in technical institution for their professional enhancement. The program provides an opportunity for teachers to familiarize themselves with modern engineering technologies including technical advancement adopted by the industry keeping in view the national needs and priorities and relevant technologies. The mission of the program is to impart the knowledge and proper training and enable the participants to become a solar professional and this program shall be a guide for those ambitious researcher who are looking for a challenging research area in solar sector.

OBJECTIVES:

- ❖ To create awareness about renewable energy.
- ❖ Disseminate the architectures of Solar PV system using Internet of Things.
- ❖ Inculcate the recent advancements in Solar PV technologies.
- ❖ Familiarize participants about the off grid system, on grid system and hybrid system of solar PV system.
- ❖ Training participants in the design of Solar PV through hands on session.
- ❖ Expertise participants for the design and simulation of Solar PV system using IoT.

TOPICS:

- Renewable Energy – an overview
- National policy and guidelines for solar power plant installation
- Theoretical background of PV systems
- Recent advancement in Solar PV technologies
- Solar cell efficiency enhancement
- Hands on training for PV system design
- Design of OFF-Grid, ON- Grid and Hybrid system
- Internet of Things
- Role of IoT in Solar PV system
- Hands on training for design of Solar PV system using IoT

RESOURCE PERSONS

Sessions will be handled by experts from National Institute of Solar Energy, National Institute of Wind Energy, Tamilnadu Electricity Board, Tamilnadu Energy Development Agency and Eminent faculty from IIT's, IITDM, NIT's, Anna University and other reputed institutions.

ELIGIBILITY

This AICTE-ISTE sponsored refresher program is open to Faculty members of AICTE approved Institutions, ISTE members, Research scholars and persons from Industries from all over the country. As per AICTE-ISTE guidelines no registration fee will be charged from the participants.

Registration link: <https://forms.gle/vvZFTac6iUPkQoQQ8>

Scan QR



CERTIFICATE

A test shall be conducted at the end of the refresher program and the certificates shall be issued to those participants who have attended all the sessions of the refresher program and have qualified in the test. The number of participants will be limited to 100 for each Phase. Online meeting link will be sent to Whatsapp contact/Registered email. *For any queries: svceaicteiste@gmail.com*

ADDRESS FOR COMMUNICATION

The Coordinator, AICTE-ISTE Refresher Program

Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering, Irungattukottai post, Pennalur, Sriperumbudur Taluk, Tamilnadu - 602 117, Ph. No: 044-27152000 Ext.:251, 264
Mobile: 7871422330, 9500837386, 9791121025

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REPORT OF AICTE-ISTE INDUCTION/REFRESHER PROGRAMME
on

”SOLAR PV SYSTEM DESIGN USING IoT” – Phase -1

The following is the detailed report of AICTE-ISTE INDUCTION/REFRESHER PROGRAMME on “SOLAR PV SYSTEM DESIGN USING IoT” – phase -1 organized by the Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering, Sriperumbudur held in online mode during **03rd March to 09th March 2021**:

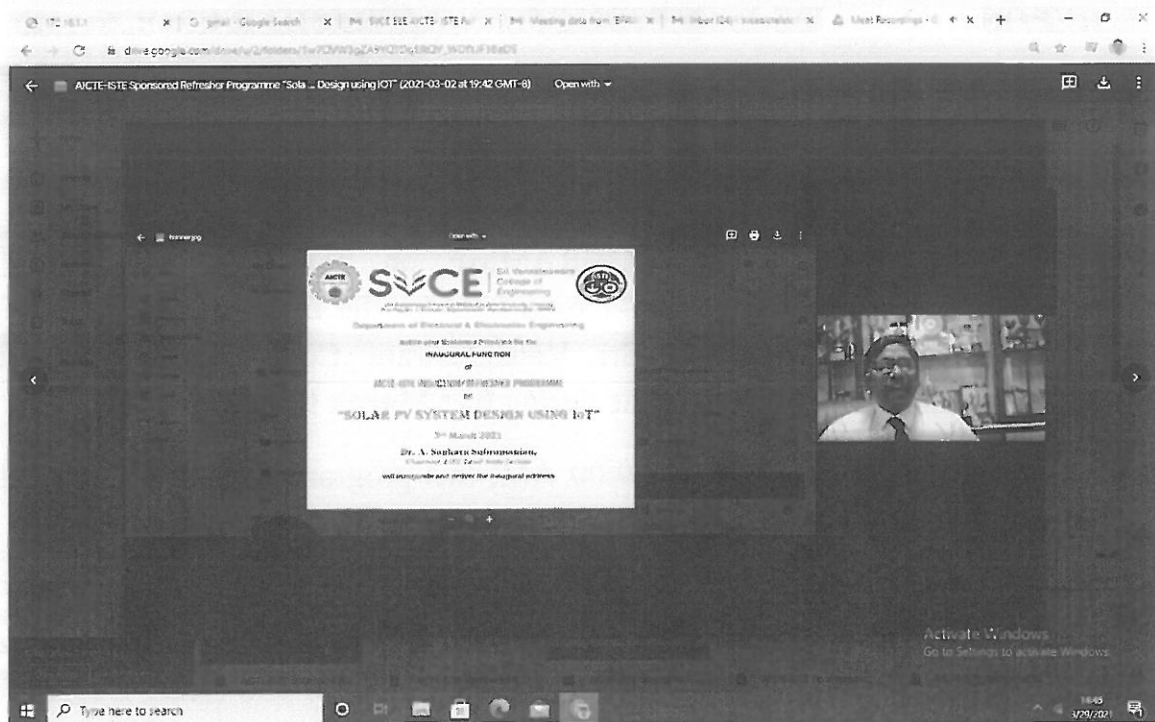
On **03.03.2021 (Wednesday)** at 9:00 AM, this program was invocated with a prayer song and the welcome address was delivered by the **Coordinator Dr. C. Gopinath**, Associate Professor; Department of EEE/SVCE.

A short note about the Induction/Refresher program and its objectives were presented by **Dr. KR. Santha**, Vice Principal, Professor and Head, Department of EEE/SVCE.

Dr. S. Ganesh Vaidyanathan, Principal, SVCE delivered the presidential address and highlighted the significance of this Refresher/Induction program topic.

Dr. Sudhakar K Bharatan, Professor and Assistant Head, Department of EEE, SVCE introduced the **Chief Guest, Dr. A. Sankara Subramanian, Chairman, ISTE-Tamilnadu Section**.

This Program was inaugurated by the **Chief Guest, Dr. A. Sankara Subramanian**, Chairman, ISTE-Tamilnadu Section. Following the inaugural address, the keynote session #1 was also presented by him that highlighted on the solar PV applications in thrust areas.

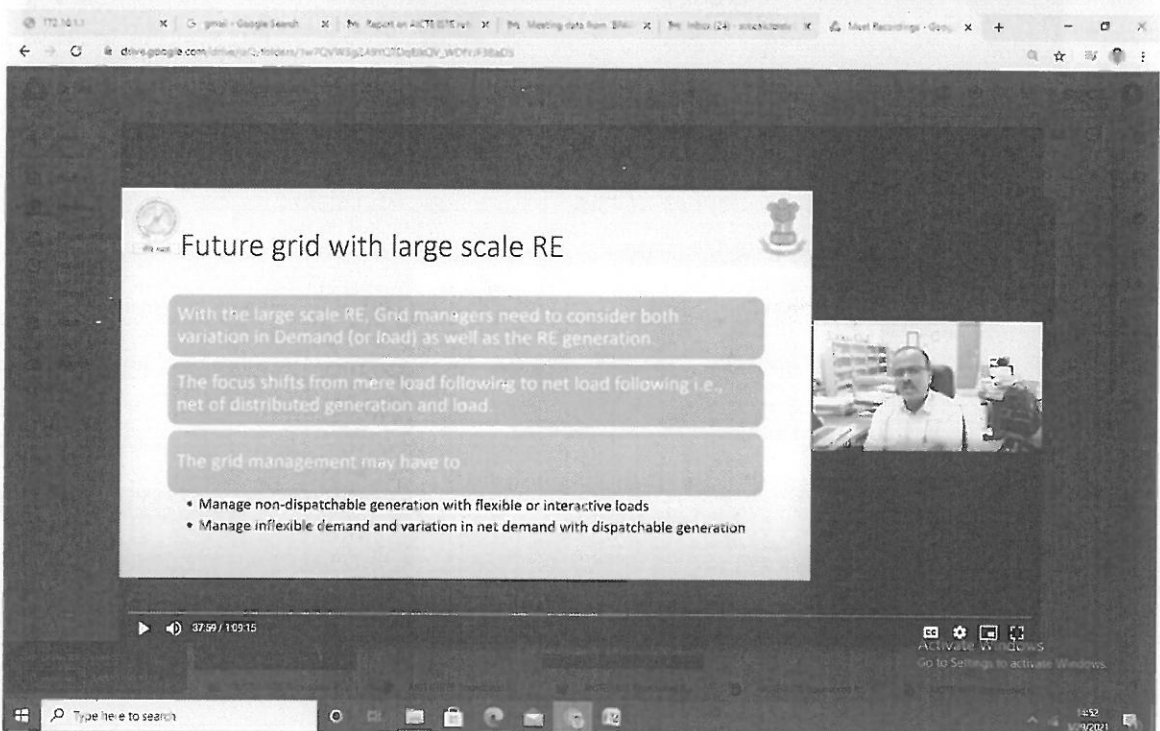


Inaugural address by Dr. A. Sankara Subramanian, Chairman, ISTE-Tamilnadu Section

After the detailed keynote session, Vote of Thanks was given by the Coordinator **Mr. D.S. Purushothaman**, Asst. Prof/ EEE, SVCE.

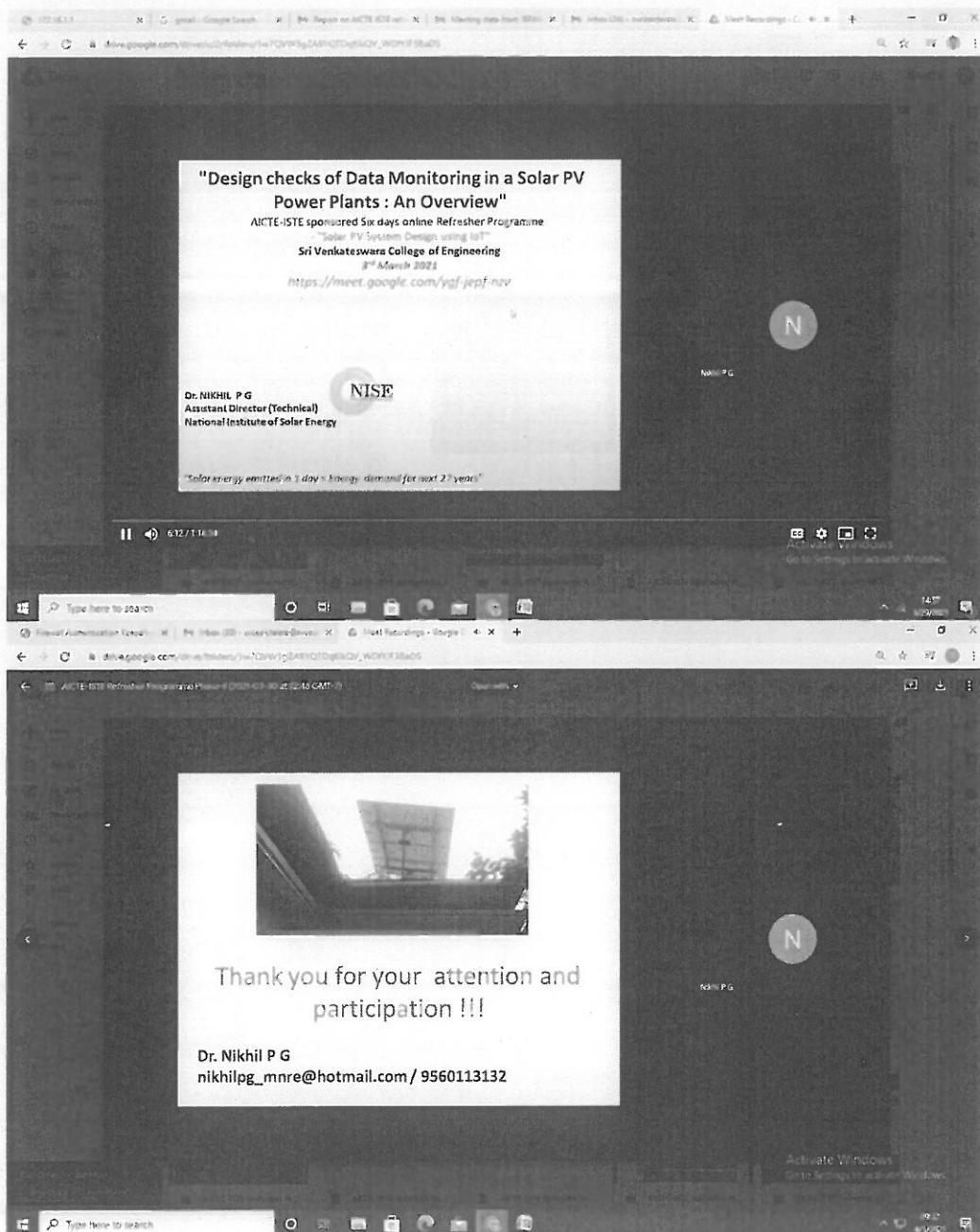
The session #2 on 03.03.2021 (Wednesday) was delivered by **Dr. K. Balaraman**, Director General, National Institute of Wind Energy on the

topic “Renewable Energy – An Overview”. Detailed discussions on availability and challenges in Renewable Energy Systems were presented in this session.



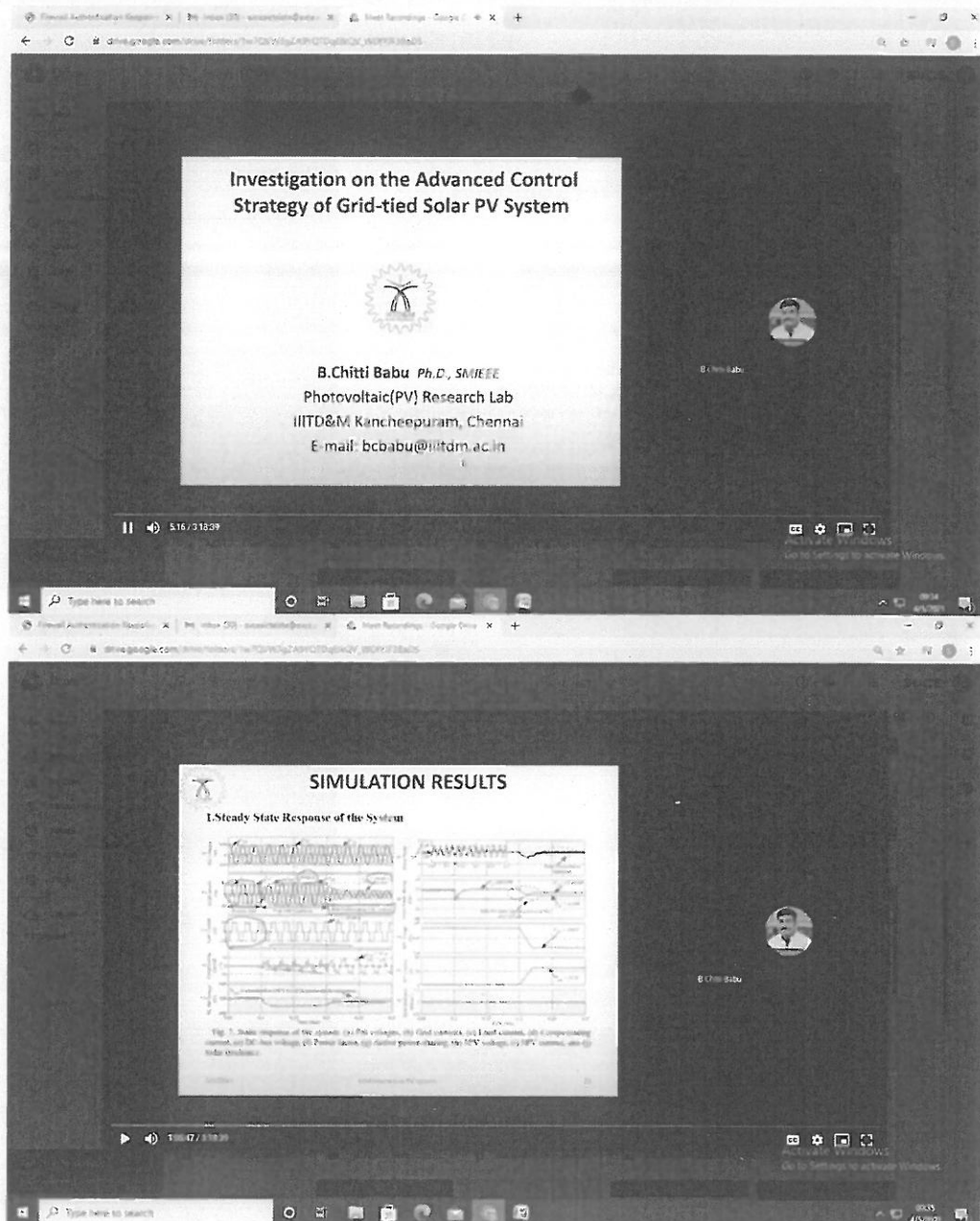
Dr. K. Balaraman, Director General, National Institute of Wind Energy delivering the session on “Renewable Energy – An Overview”

The session #3 on 03.03.2021 (Wednesday) was presented by **Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy**. The topic for the session was **“Design Checks of Data monitoring in a Solar PV Power Plants: An Overview”**. In this session, the participants were presented with details on Solar PV Power Plant’s various parameters monitoring cum adjustments. The session ended with the interactive discussions on design checks on data monitoring in solar PV power plants.



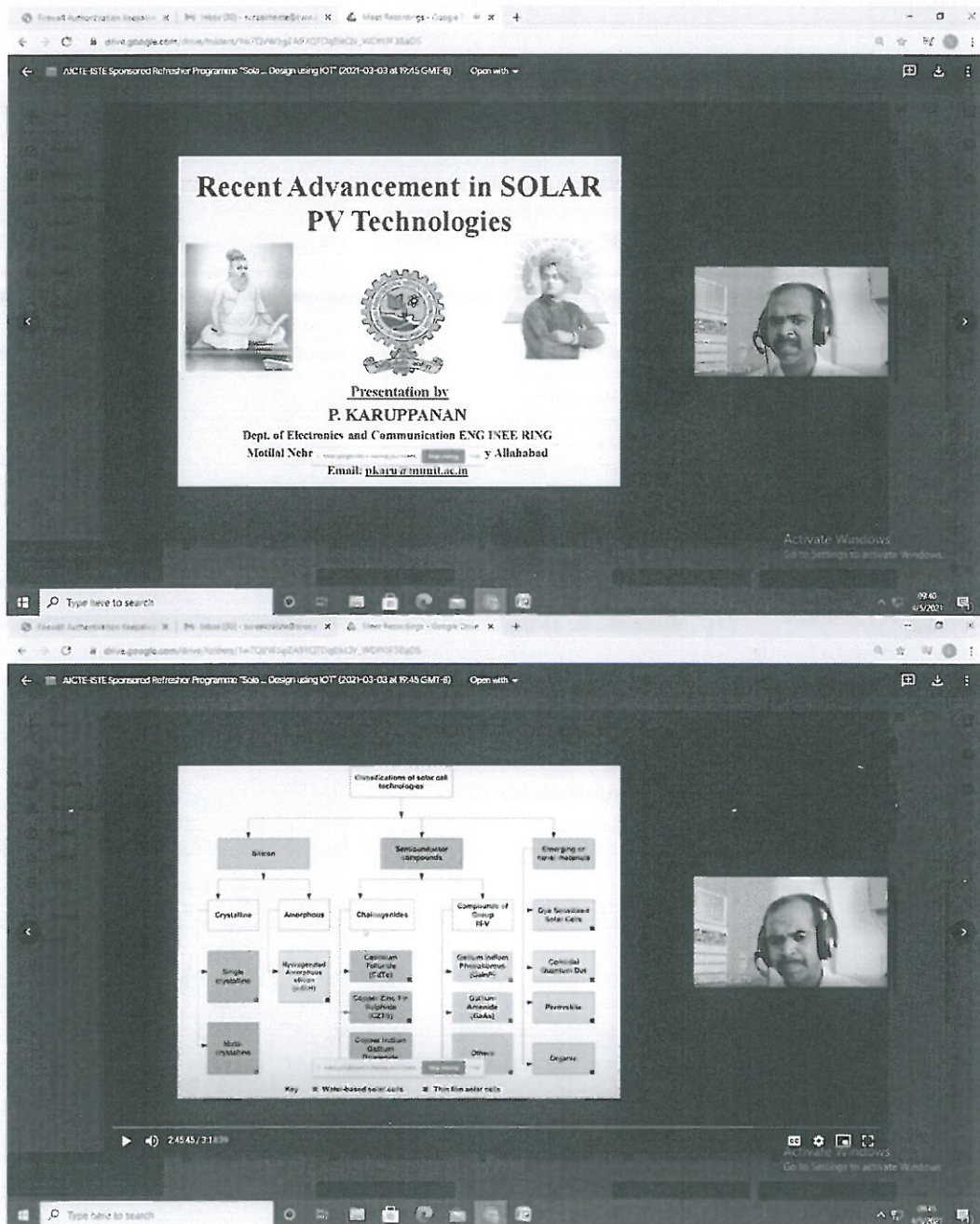
Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy, discussing in detailed about the “Design Checks of Data monitoring in a Solar PV Power Plants: An Overview”.

The session #1 on 04.03.2021 (Thursday) was presented by **Dr. B. ChittiBabu, Assistant Professor (Sr. Grade)**, Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kancheepuram. The topic for the session was “**Investigation on the Advanced Control Strategies of Grid-Tied Solar PV System**”. The presentation highlighted various advanced control strategies of the grid-interconnected Solar PV System and its analysis. The hardware implementation and results part of the presentation ignited the minds of participants towards innovative research.



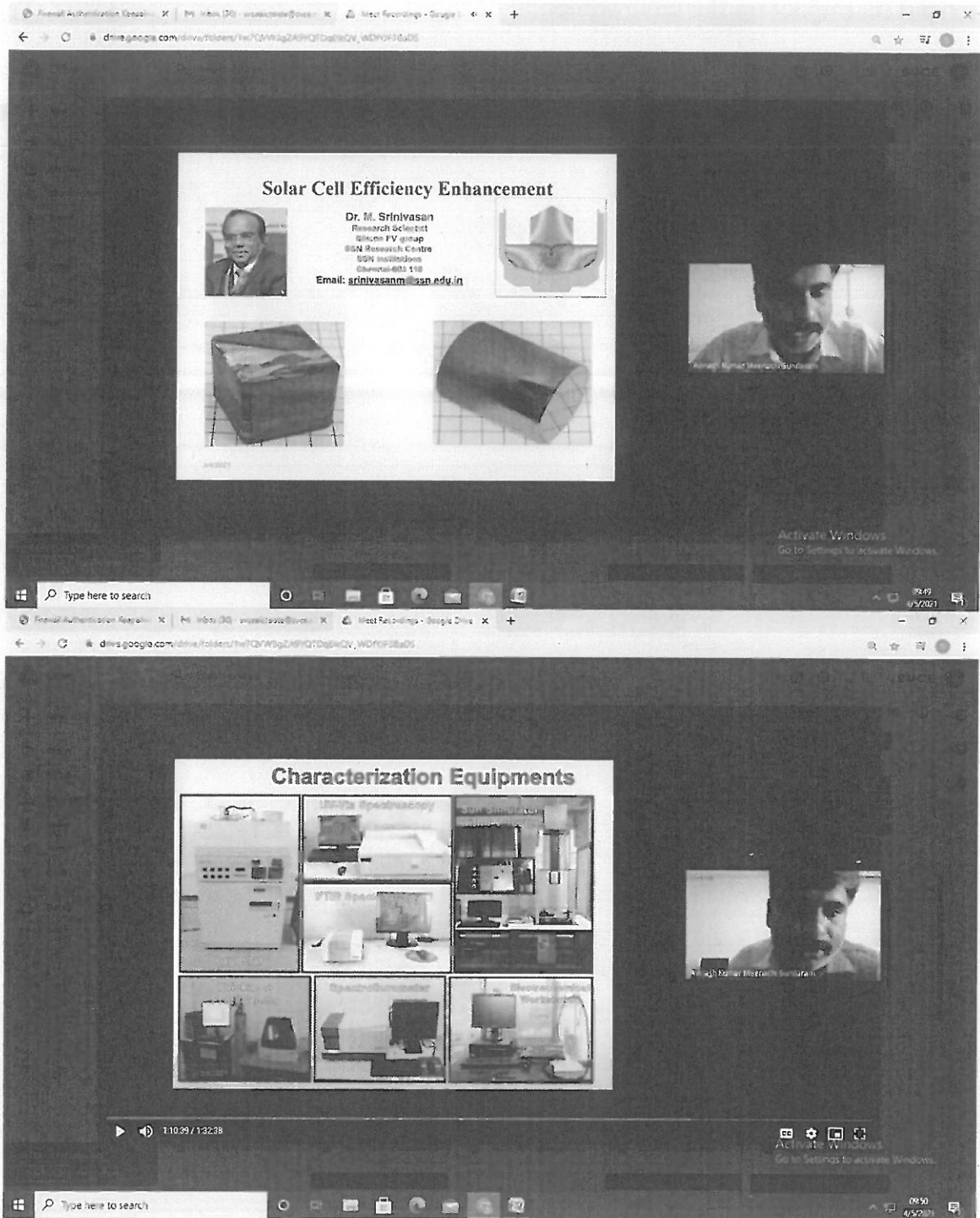
Dr. B. ChittiBabu, Assistant Professor (Sr. Grade), IIITDM, Kancheepuram discussing on “Investigation on the Advanced Control Strategies of Grid-Tied Solar PV System”.

The session #2 on 04.03.2021 (Thursday) was presented by Dr. P. Karuppanan, Assistant Professor, Motilal Nehru National Institute of Technology, Allahabad on the topic “Recent Advances in Solar PV Technologies”. He briefed on the recent advancements in Solar PV technologies under grid-connected as well as stand-alone configurations. The presentation was full of statistics and knowledge pertaining to recent advances in solar PV technologies.



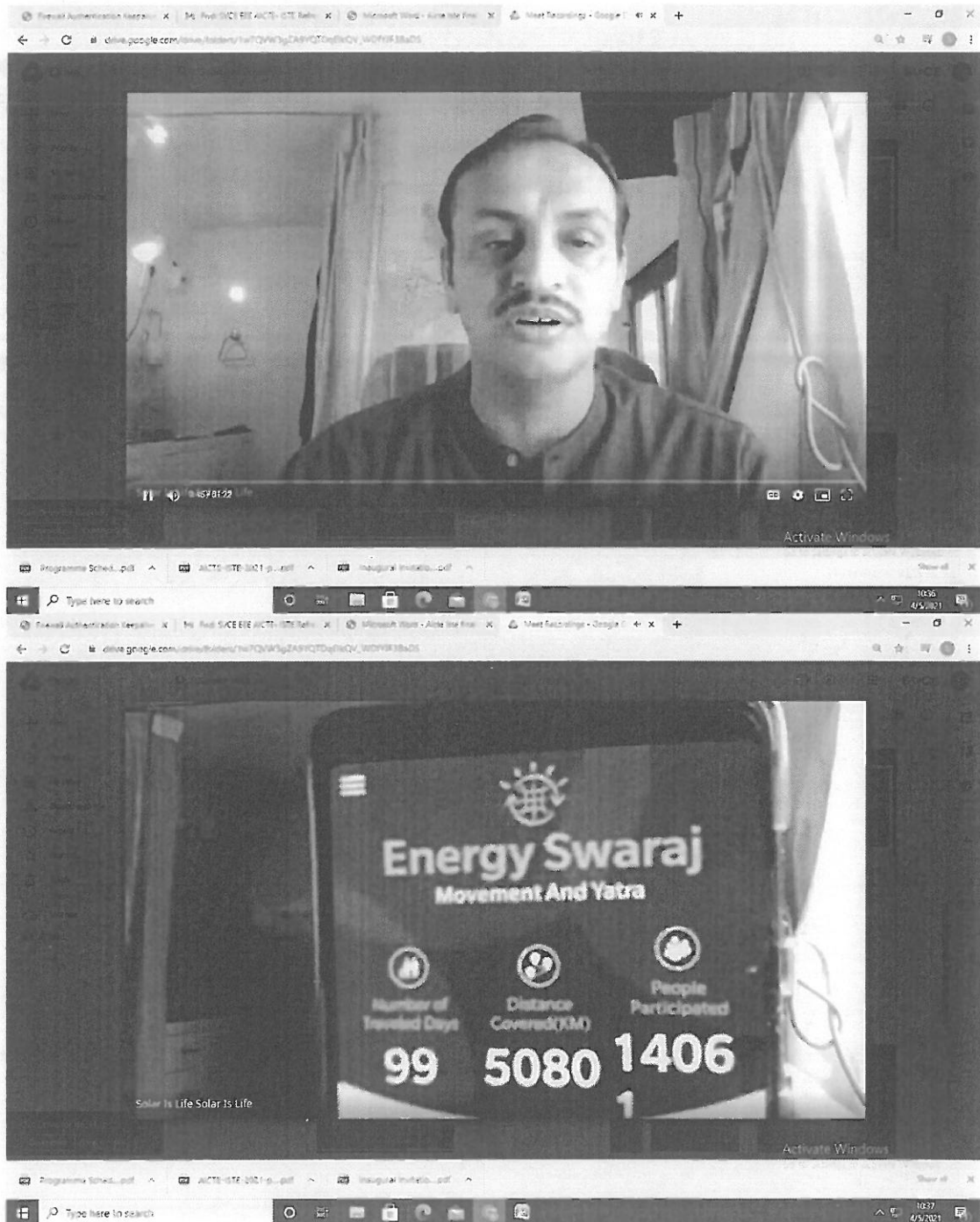
Dr. P. Karuppanan, Assistant Professor, Motilal Nehru National Institute of Technology, Allahabad on the topic “Recent Advances in Solar PV Technologies”

In the session #3 on 04.03.2021 (Thursday), Dr. M. Srinivasan, Research Associate, SSN Research Centre discussed on “Solar Cell Efficiency Enhancement” in detail. He discussed about the various materials used for the fabrication of solar cell and technologies for improvement of cell efficiency.



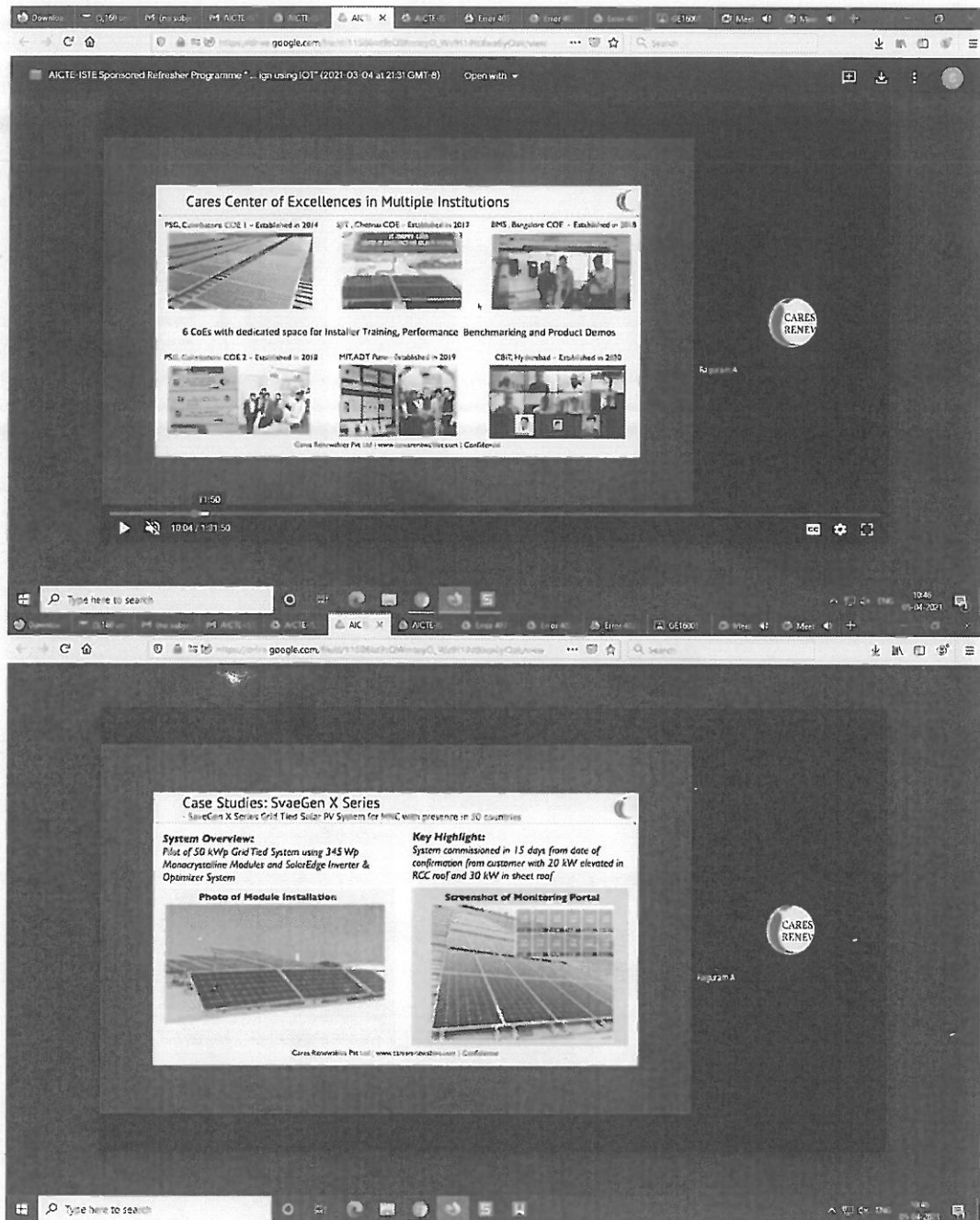
Dr. M. Srinivasan, Research Associate, SSN Research Centre discussing on the topic “Solar Cell Efficiency Enhancement”

On day 3, 05.03.2021 (Friday), Session #1, Dr. Chetan Singh Solanki, Department of Energy Science and Engineering, Indian Institute of Technology, Bombay delivered the speech on “Solar PV System Design (Off grid, On grid, Hybrid)”. He elaborated on the importance of the solar energy and its impact on the environmental changes.



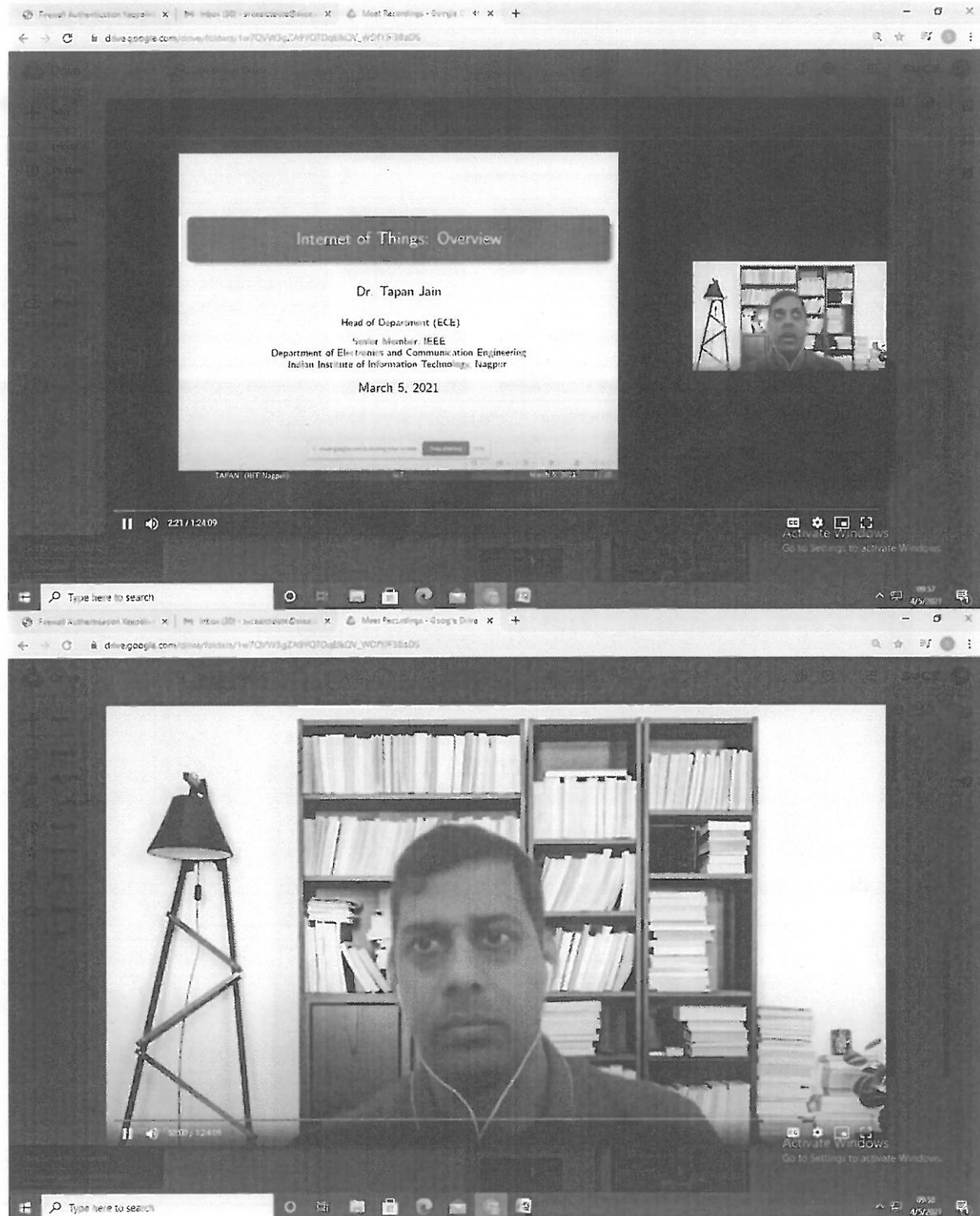
Dr. Chetan Singh Solanki, Department of Energy Science and Engineering, Indian Institute of Technology, Bombay delivering the speech on “Solar PV System Design (Off grid, On grid, Hybrid)”

On day 3, 05.03.2021 (Friday), Session #2, **Thiru. RaguramArjunan, Co-Founder & Director of Operations at Cares Renewables** gave a lecture on **“Solar PV System Design”** and explained in detail about the design and simulation of PV systems.



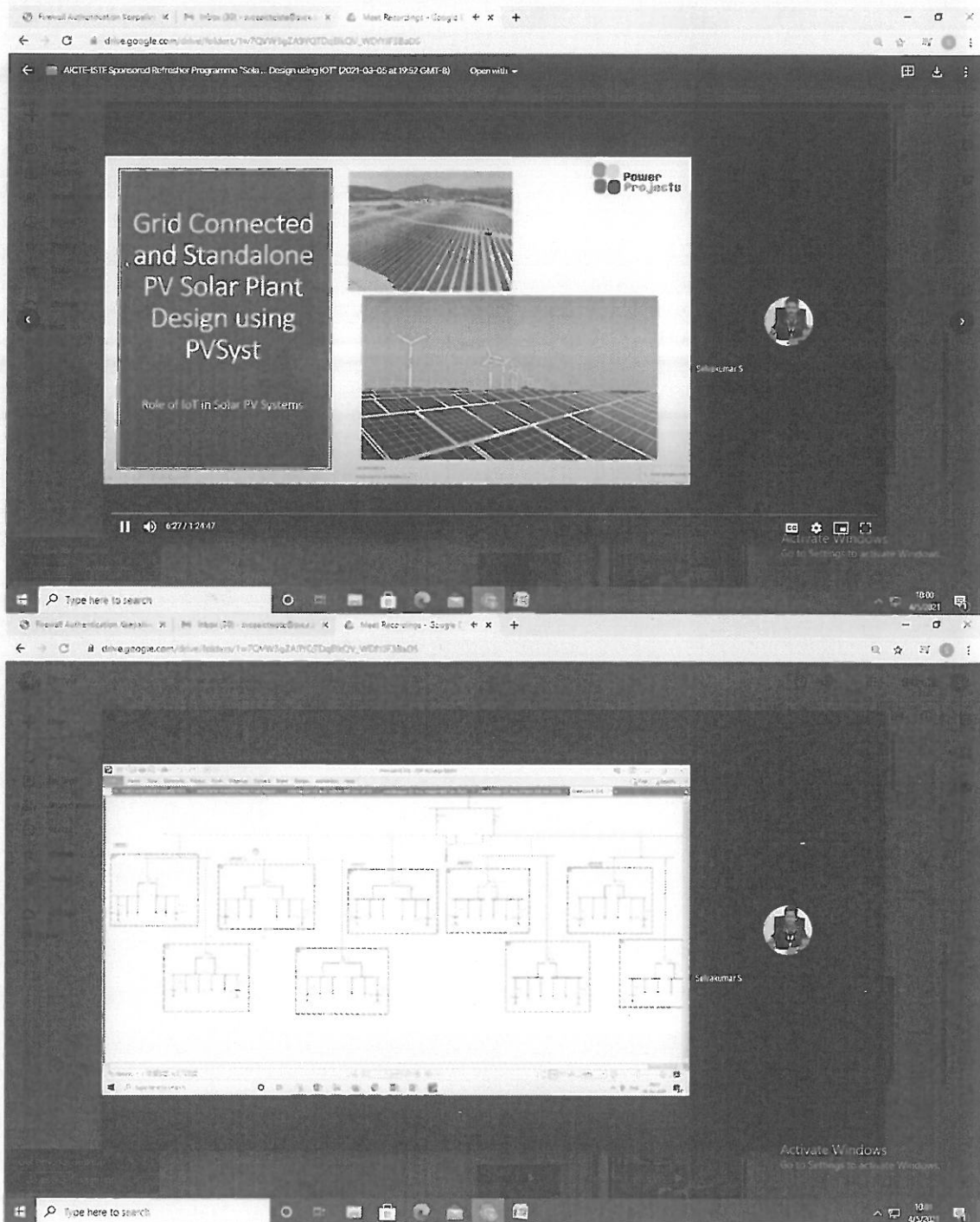
Thiru. RaguramArjunan, Co-Founder & Director of Operations at Cares Renewables giving a lecture on **“Solar PV System Design”**

On day 3, Session # 3, Dr. Tapan Kumar Jain, Indian Institute of Information Technology, Nagpur delivered a session on “IoT Fundamentals”. Based on present scenario, the significances of the Internet of Things in various fields were discussed in detail.



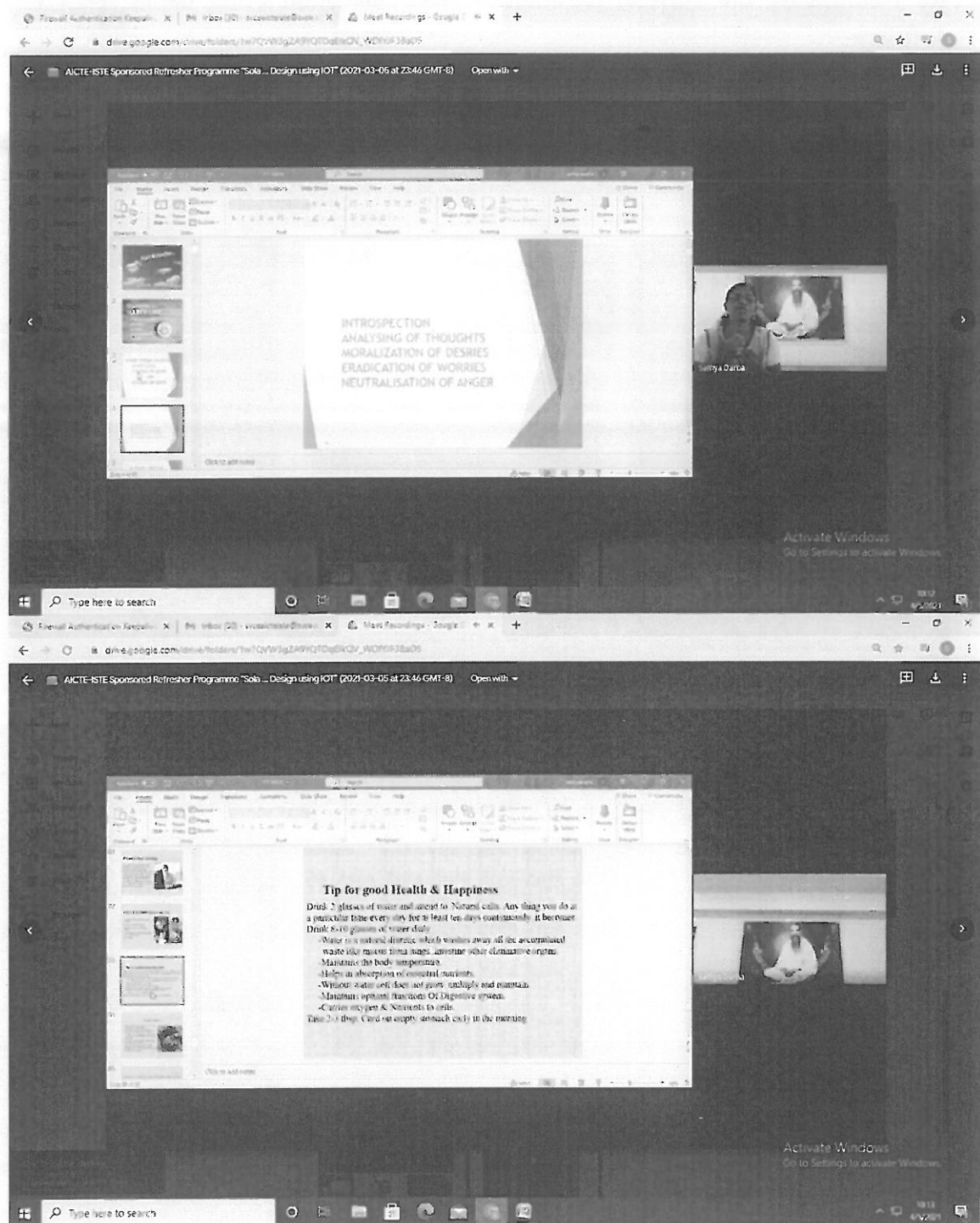
Dr. Tapan Kumar Jain, Indian Institute of Information Technology, Nagpur delivering the session on “IoT Fundamentals”

Session #1 & 2 on 06.03.2021 (Saturday) was handled by **Thiru. S. Selvakumar, Power Projects**. He delivered a brief presentation on **“Role of IoT in Solar PV System Design”**. He discussed about the importance of IoT for monitoring the various parameters from the solar plant using the PV syst software.



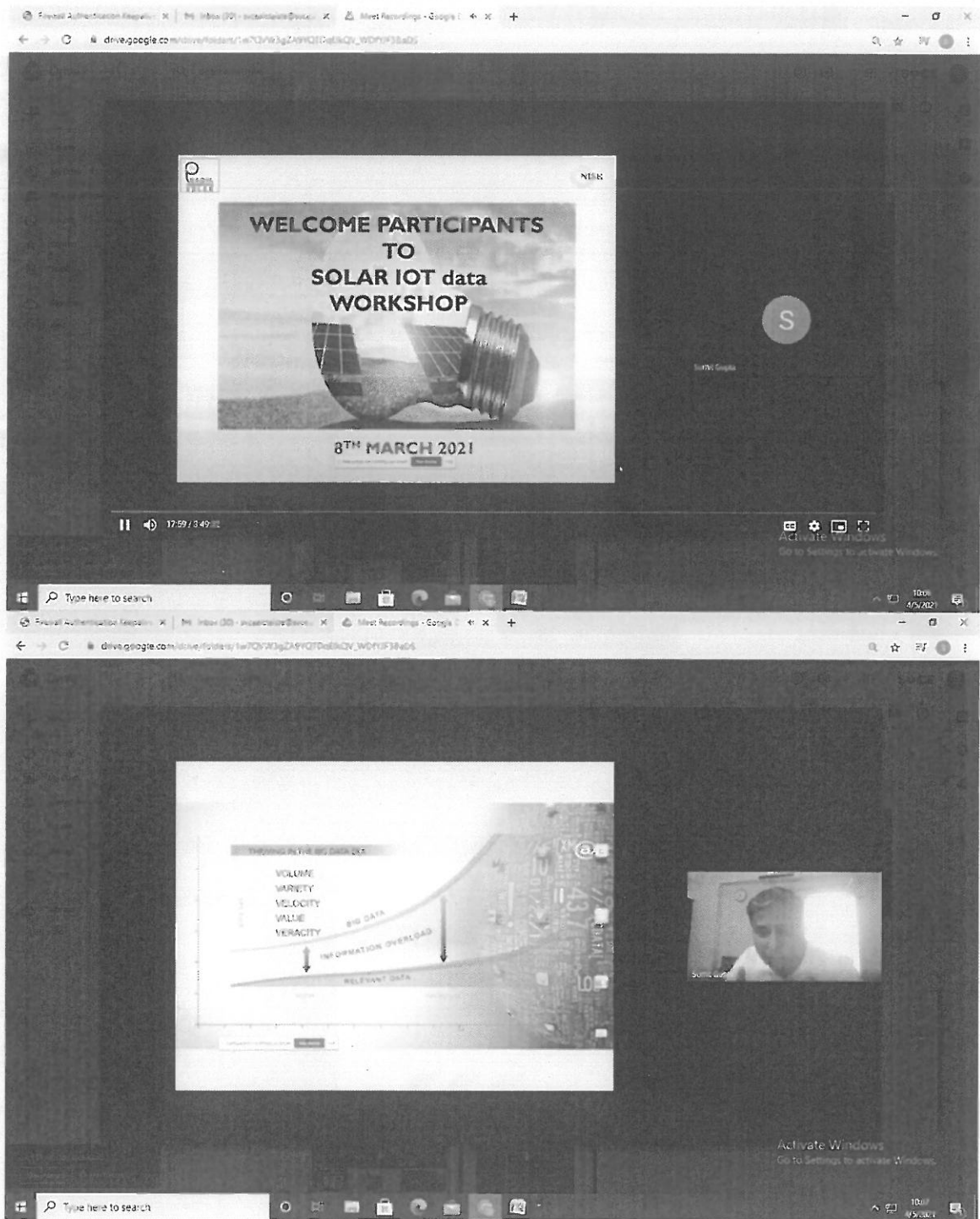
Thiru. S. Selvakumar, Power Projects delivering the presentation on “Role of IoT in Solar PV System Design”.

In session #3, on 06.03.2021 (Saturday), a program on “Yoga for Stress Management” was conducted by the Vethathiri Maharishi Foundation, as per the guide lines of AICTE-ISTE INDUCTION/REFRESHER PROGRAM.



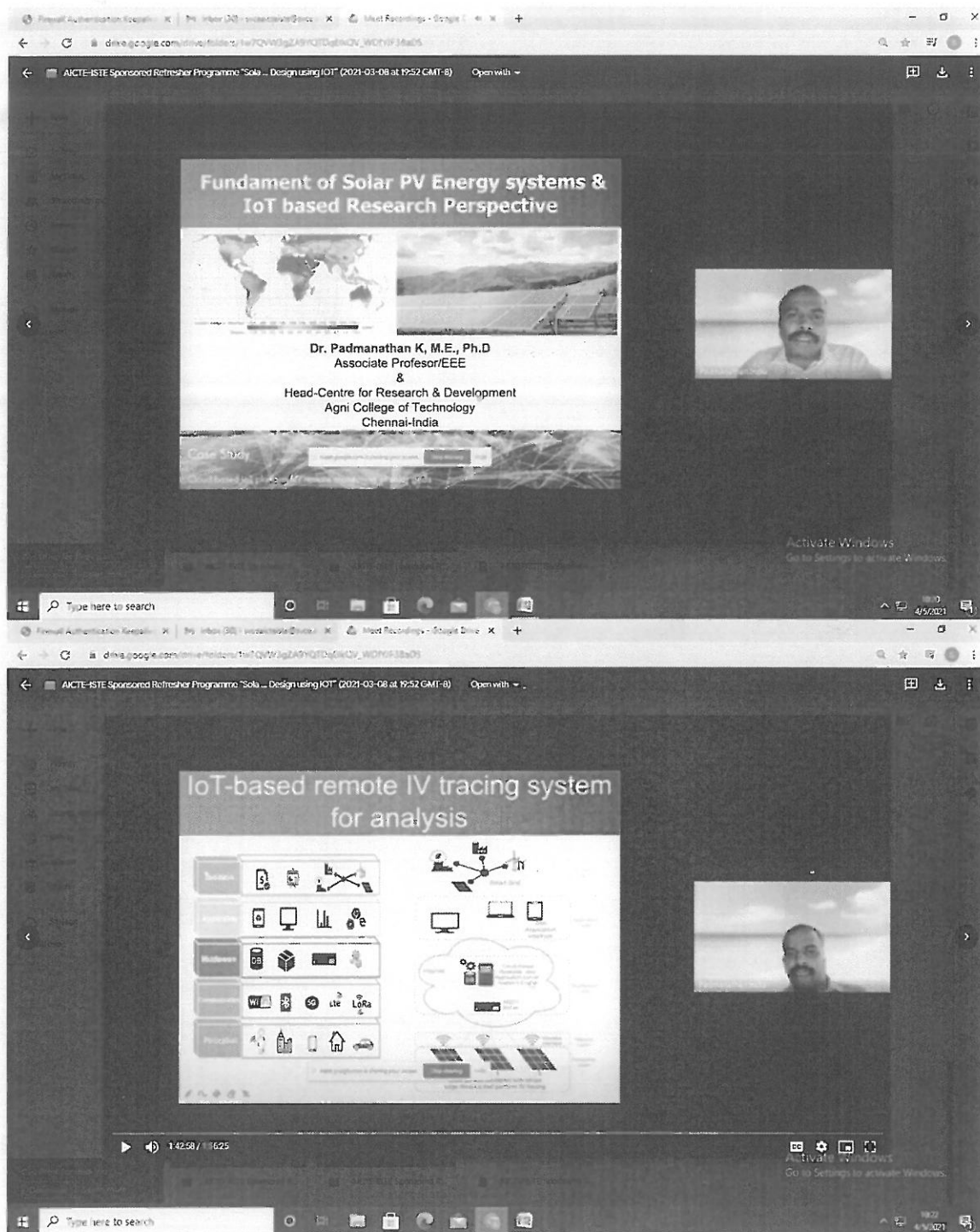
Program on “Yoga for Stress Management” presented by the ‘Vethathiri Maharishi Foundation’

On day 5, 08.03.2021 (Monday) Shri. Sumit Gupta, Pragma Solar handled the whole day hands-on session on “IoT based Solar PV systems” which gave an insight to the participants in integrating IoT with solar PV systems.



Shri. Sumit Gupta, Pragma Solar handling the session on the topic “Hands on Session on IoT based Solar PV systems”

On the last day of the program, 09.03.2021 (Tuesday), **Dr.K.Padmanathan, Agni Institute of Technology & Nestlives Pvt. Ltd** addressed on the topic **“Research Challenges in IoT based Solar PV Systems”**, following which Assessment test was conducted and feedback was received from participants.



Dr.K.Padmanathan, Agni Institute of Technology & Nestlives Pvt. Ltd addressing on the topic **“Research Challenges in IoT based Solar PV Systems”**

The valedictory function of AICTE-ISTE INDUCTION/REFRESHER PROGRAMME on “SOLAR PV SYSTEM DESIGN USING IoT” – phase -1 was organized on 09.03.2021 (Tuesday) at 1.15 PM. The function started with ‘Thamiz Thai Vazthu’ followed by the welcome address by **Mr. D.S. Purushothaman**, Asst. Prof/ EEE, SVCE. The report of the program was presented by **Dr. KR. Santha**, Vice Principal, Professor and Head, Department of EEE/SVCE. **Dr. S. Ganesh Vaidyanathan**, Principal, SVCE delivered the presidential address. **Dr. Sudhakar K Bharatan**, Professor and Assistant Head, Department of EEE, SVCE introduced the **Chief Guest, Col. B Venkat Director (Faculty Development) AICTE, New Delhi**. The valedictory speech was given by **Col. B Venkat**. He appreciated Sri Venkateswara College of Engineering and the Department of Electrical and Electronics Engineering for having organized the Refresher Program which is the need of the hour. Vote of Thanks was given by the Coordinator **Dr. C. Gopinath**, Associate Professor; Department of EEE/SVCE.



The valedictory speech by Col. B Venkat, Director (Faculty Development) AICTE, New Delhi.

KR. Santh
29.7.21
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