



Sri Venkateswara  
College of  
Engineering

# AICTE-ISTE INDUCTION/REFRESHER PROGRAMME ON



## SOLAR PV SYSTEM DESIGN USING IoT

# ABOUT THE PROGRAM

The AICTE-ISTE INDUCTION/REFRESHER PROGRAMME on “SOLAR PV SYSTEM DESIGN USING IoT” – phase -II has been organized by the Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering, Sriperumbudur in online mode during 3rd March to 11th April 2021. The key objective of this program is to impart knowledge and skills to the participants in the field of Solar and we believe that the goal has been achieved



(An Autonomous Institution Affiliated to Anna University, Chennai)

**Department of Electrical & Electronics Engineering**

Solicit your Esteemed Presence for the  
INAUGURAL FUNCTION  
of  
AICTE-ISTE INDUCTION/REFRESHER  
PROGRAMME  
on

**“Solar PV SyStem DeSign USing iot”  
phase I**

3rd March

**Dr. A. Sankara Subramanian,**  
Chairman, ISTE Tamil Nadu Section  
will inaugurate and deliver the inaugural address

**Dr.M.Sivanandham,**  
Secretary, Sri Venkateswara Educational and Health Trust  
&

**Dr.S.Ganesh Vaidyanathan,**  
Principal, Sri Venkateswara College of Engineering  
Will preside over the function





# PROGRAM SCHEDULE

Date	Session 1	Session 2	Session 3
Time	9.15 AM to 10.45 AM	11.00 AM to 12.30 PM	1.15 PM to 2.45 PM
03/03/21	Inaugural Address – “Solar PV System” <b>Dr. A. Sankara Subramanian</b> Chairman, ISTE Tamil Nadu Section	“Renewable Energy – An Overview” <b>Dr. K.Balaraman</b> Director General National Institute of Wind Energy	“Design checks of Data Monitoring in a Solar PV Power Plants: An Overview” <b>Dr. PG.Nikhil</b> Assistant Director (Technical) National Institute of Solar Energy
04/03/21	“Investigation on the Advanced Control Strategies of Grid-Tied Solar PV System” <b>Dr.B.Chittibabu</b> IITDM Kancheepuram	“Recent Advances in Solar PV Technologies” <b>Dr. P. Karuppanan</b> MNIT Allahabad	“Solar Cell Efficiency Enhancement” <b>Dr. M. Srinivasan</b> SSN Research Centre
05/03/21	“Solar PV System Design” (OFF Grid, ON Grid, Hybrid) <b>Dr. Chetan Singh Solanki</b> Department of Energy Science and Engineering Indian Institute of Technology, Bombay	“Solar PV System Design” <b>Thiru. Raguram Arujanan</b> Co-Founder & Director of Operations at Cares Renewables	“IoT Fundamentals” <b>Dr. Tapan Kumar Jain</b> Indian Institute of Information Technology, Nagpur
06/03/21	“Role of IoT in Solar PV Systems” <b>Thiru.S.Selvakumar</b> Power Projects		“Yoga for Stress Management” <b>Vethathiri Maharishi Foundation</b>
08/03/21	“Hands on Session on IoT based Solar PV systems” <b>Thiru. Sumit Gupta</b> Pragma Solar		
09/03/21	“Research Challenges in IoT based Solar PV Systems” <b>Dr.K.Padmanathan</b> Agni Institute of Technology & Nestlives Pvt. Ltd	Assessment Test / Feedback	Valedictory Address <b>Col. B Venkat</b> Director (Faculty Development) AICTE, New Delhi

# CHEIF GUEST



Dr.A.Sankara Subramanian M.E., Ph.D.,  
The Principal,  
GRG Polytechnic College,  
Kuppepalyam, Sarakara Samakulum Post,  
Coimbatore Dist.-641107 (T.N.),  
09443477578 (M)  
email : chairmanistetnp@gmail.com

Dr.A.Sankara Subramanian M.E., Ph.D., is the Principal of GRG Polytechnic College, Coimbatore which is a Government Aided Institution.

He obtained his Bachelor Degree in Electrical and Electronics Engineering in the year of 1991, Master of Engineering in Power Systems in 2000 from Madurai Kamaraj University, Madurai and Doctoral Degree at Anna University in the year of 2012. He has completed the prestigious UKIERI (United Kingdom - India Education and Research Initiative) Training on "Further Education Leadership Development" and obtained CMI Level 5 certificate.

He published 19 research articles in the National and International journals and presented technical papers in various International conferences and conventions. Also, he authored 6 books in the technical arena. He submitted funded proposals and received funds from AICTE on distinguished projects.

He rendered service of about 28 years in the field of education by holding different responsibilities. His dedication in his commitments and strenuous efforts brought successful and distinguished accomplishments to the individual and to the institutions.

Contact

# DAY-01

# Session-01

03/03/2021



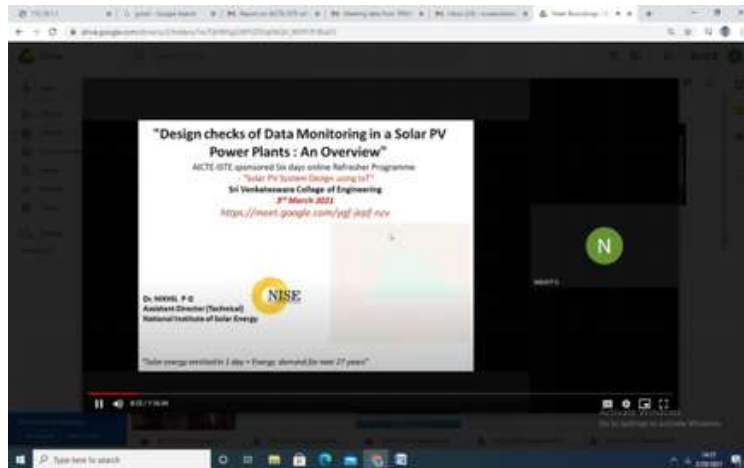
This Program was inaugurated by the Chief Guest, Dr. A. Sankara Subramanian, Chairman, ISTE-Tamilnadu Section. Following the inaugural address, the keynote session #1 was also presented by him that highlighted on the solar PV applications in thrust areas.

# Session-02



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.

# Session-03



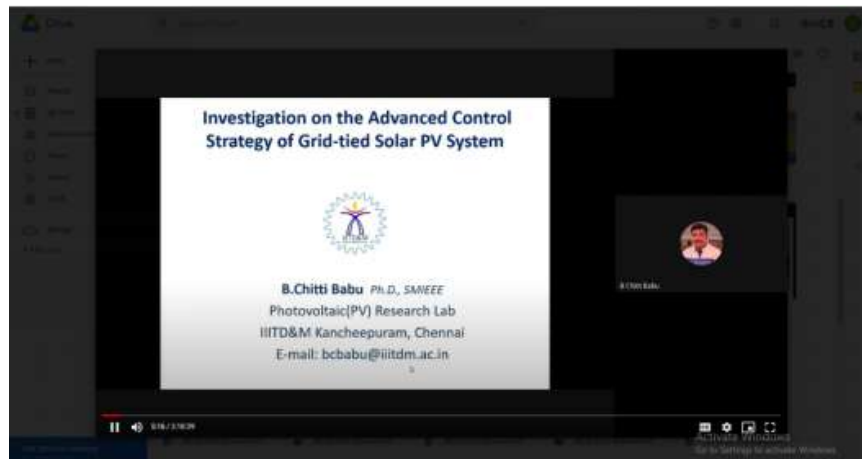
On 03.03.2021 (Wednesday) was presented by Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy. The topic for the session was “Design Checks of Data monitoring in a Solar PV Power Plants: An Overview”. In this session, the participants were presented with details on Solar 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.



# DAY-02

# Session-01

04/03/2021



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.



# Session-02



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.

# Session-03



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.

# DAY-03

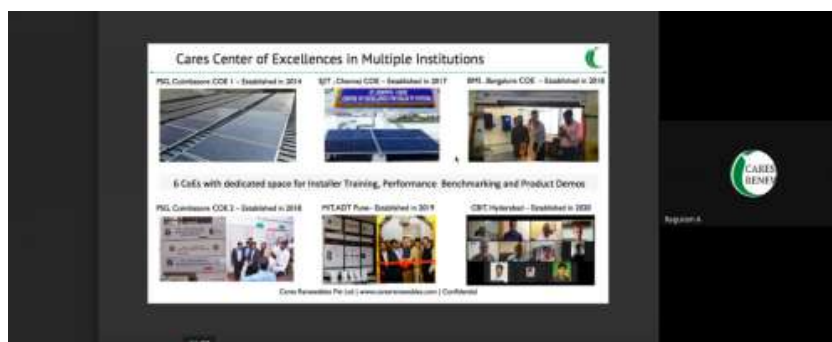
# Session-01

05/03/2021



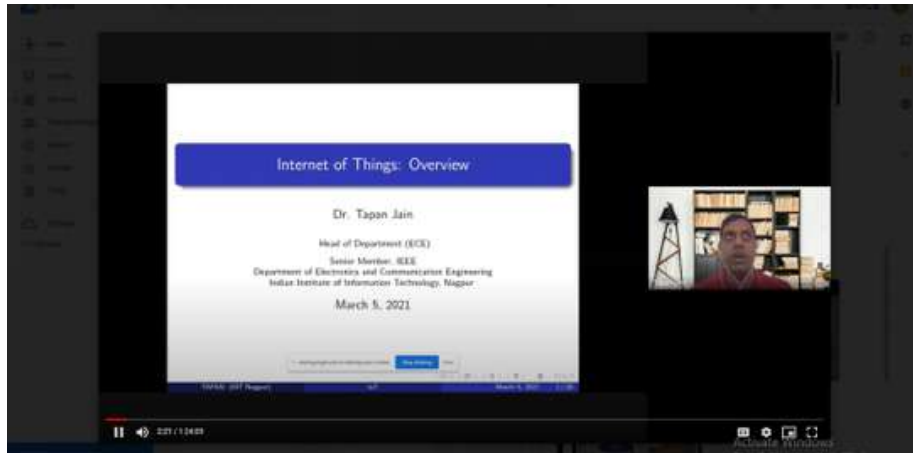
Dr. Chetan Singh Solanki, Department of Energy Science and Engineering, Indian Institute of Technology, Bombay delivered the speech on “Solar PV System Design (Off grid, On grid, Hybrid)”. He elaborated on the importance of the solar energy and its impact on the environmental changes.

# Session-02



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.

# Session-03



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.

DAY-04

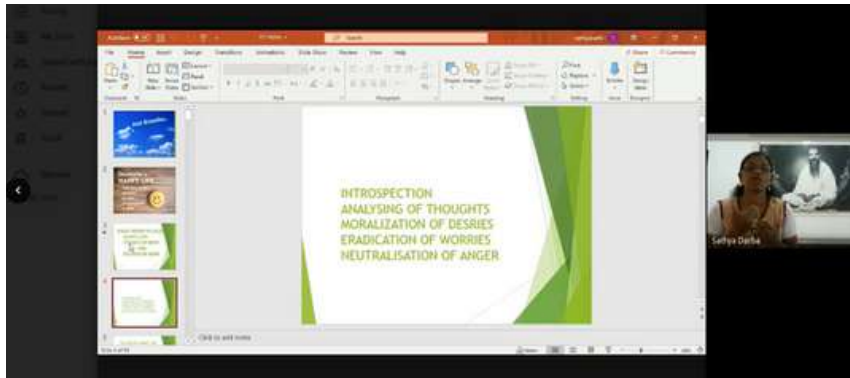
# Session-01&2



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.



# Session-03



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.

DAY-05

# Session-01

08/03/2021



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.



DAY-06

*Session-01*

09/03/2021



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.

# THE VALEDICTORY FUNCTION



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.



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PROGRAMME  
on

**“Solar PV SyStem DeSign USing iot”**  
**phase II**

31st March

**Dr. K.Balaraman,**

Director General, National Institute of Wind Energy  
will inaugurate and deliver the inaugural address

**Dr.M.Sivanandham,**

Secretary, Sri Venkateswara Educational and Health Trust

&

**Dr.S.Ganesh Vaidyanathan,**

Principal, Sri Venkateswara College of Engineering  
will preside over the function





# PROGRAM SCHEDULE

Date	Session 1	Session 2	Session 3
Time	9.30 AM to 11.00 AM	11.15 AM to 12.45 PM	1.30 PM to 3.00 PM
31/03/21	<p>Inaugural and Keynote Address - Renewable Energy – an Overview</p> <p><b>Dr.K.Balaraman</b> Director General National Institute of Wind Energy (Ministry of New and Renewable Energy, Government of India)</p>	<p>“Design checks of Data Monitoring in a Solar PV Power Plants: An Overview”</p> <p><b>Dr.PG. Nikhil</b> Assistant Director (Technical) National Institute of Solar Energy (Ministry of New and Renewable Energy, Government of India)</p>	<p>“Theoretical background of Solar PV systems”</p> <p><b>Dr.K.Srinivas Reddy</b> Professor Department of Mechanical Engineering Indian Institute of Technology Madras Honorary Professor, Clean Technologies, University of Exeter, Penryn campus Cornwall, UK</p>
01/04/21	<p>“Investigation on the advanced control strategies of Grid-Tied Solar PV system”</p> <p><b>Dr. B. Chitti Babu</b> Indian Institute of Information Technology, Design &amp; Manufacturing (Under Ministry of Education, Govt. of India)</p>	<p>“Recent advances in Solar PV technologies”</p> <p><b>Dr. P. Karuppanan</b> Motilal Nehru National Institute of Technology Allahabad, UP</p>	<p>“Solar cell efficiency enhancement”</p> <p><b>Dr. M. Srinivasan</b> Research Scientist Modeling group SSN Research Centre</p>
03/04/21	<p>“Solar PV system design (off grid, on grid, hybrid)”</p> <p><b>Dr. Chetan Singh Solanki</b> Department of Energy Science and Engineering Indian Institute of Technology Bombay Powai</p>	<p>“Solar PV system design”</p> <p><b>Thiru.Raguram Arjunan</b> Co-Founder &amp; Director of Operations at Cares Renewables Coimbatore</p>	<p>“IoT fundamentals”</p> <p><b>Dr. Tapan Kumar Jain</b> Indian Institute of Information Technology, Nagpur</p>
05/04/21	<p>“Role of IoT in Solar PV systems”</p> <p><b>Thiru. Sumit Gupta</b> Founder &amp; CEO Pragya Solar Uttar Pradesh</p>		<p>“Yoga for Stress management”</p> <p><b>Vethathiri Maharishi Foundation</b> Chennai</p>
07/04/21	<p>“Hands on session on IoT based Solar PV systems”</p> <p><b>Thiru.S.Selvakumar</b> Business Head Power Projects, Chennai</p>		
08/04/21	<p>“Research Challenges in IoT based Solar PV systems”</p> <p><b>Dr.K.Padmanathan</b> Agni Institute of Technology &amp; Nestlives Pvt. Ltd, Chennai</p>	<p>Assessment Test / Feedback</p>	<p>Valedictory Address</p> <p><b>Prof. Vijay D. Vaidya</b> Executive Secretary Indian Society for Technical Education (ISTE) New Delhi</p>



# CHEIF GUEST



Dr Balaraman Kannan  
Director General  
National Institute of Wind Energy (NIWE)

Dr. Balaraman Kannan, Director General, National Institute of Wind Energy (NIWE) under Ministry of New and Renewable Energy (MNRE), Government of India is an expert in RE integration. His expertise includes handling of very large systems like Indian and several other international grid systems and also complex industrial networks. His vast experience of more than 30 years is spread across the gamut of Energy system and power system engineering right from planning to the real time operation.

His international experience spans over 25 Countries and has carried out Grid Integration of RE with the portfolio of more than 35,000 MW of wind generation and 5000 MW of solar generation. He was involved in preparation of Wind Energy Grid code in India and also updating Java-Matura-Bali Grid code with Renewables as part of ICED project. As part of USAID SARI project, he was involved in Harmonization of Grid code for South Asian interconnection which has includes the Renewable Energy options.

Recipient of National Award for e-Governance, 2018-19 (Gold) for Wind Power forecasting services for Tamil Nadu from Department of Administrative Reforms & Public Grievances, Govt. of India

He is recipient of “Outstanding Engineer Award” by the IEEE Power and Energy Society in 2016 and also received “British Overseas Scholarship” in 1997.

He has published over 50 research papers in National and international journals & conferences. He has guided one Ph.D and two M.Sc (engg), besides over 250 projects of Master degree and Bachelor degree students.

# DAY-01

## *Session-01*

31/03/2021

On 31st March 2021 at 9:30 AM, this program was inaugurated and the welcome address was delivered by the Programme Coordinator Dr. C. Gopinath, Associate Professor; Department of EEE/SVCE.

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

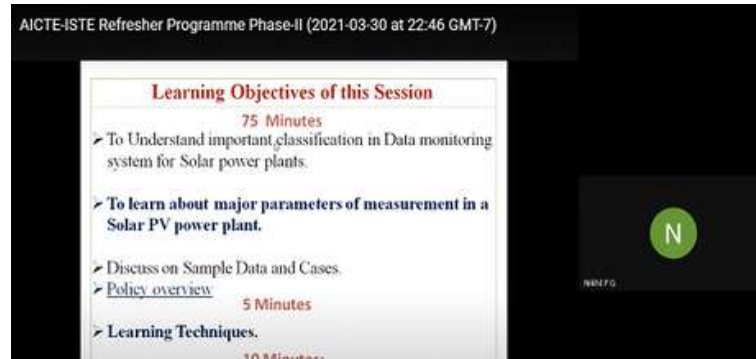
Dr. S. Ganesh Vaidyanathan, Principal, SVCE delivered the presidential address and highlighted on the Refresher/Induction program.

Dr. Sudhakar K Bharatan, Professor and Assistant Head, Department of EEE, SVCE introduced the Chief Guest, Dr. K.Balaraman, Director General, National Institute of Wind Energy

This Program was inaugurated by the Chief Guest, Dr. K.Balaraman, Director General, National Institute of Wind Energy and delivered the inaugural address to the excited audience.

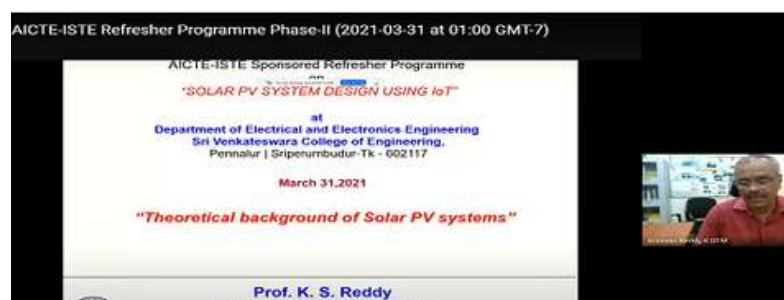
After the detailed keynote session, the Vote of Thanks was delivered by the Coordinator Mr. D.S. Purushothaman, Asst. Prof/ EEE, SVCE.

# Session-02



on 31.03.2021, Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy, discussed in detailed about the “Design Checks of Data Monitoring in a Solar PV Power Plants: An Overview” .In which Solar PV Power Plant’s various parameter monitoring cum adjustments were discussed.

# Session-03



on 31.03.2021, Dr.K.Srinivas Reddy, Professor from the Department of Mechanical Engineering, Indian Institute of Technology Madras delivered a lecture on the topic “Theoretical background of Solar PV systems”.

DAY-02

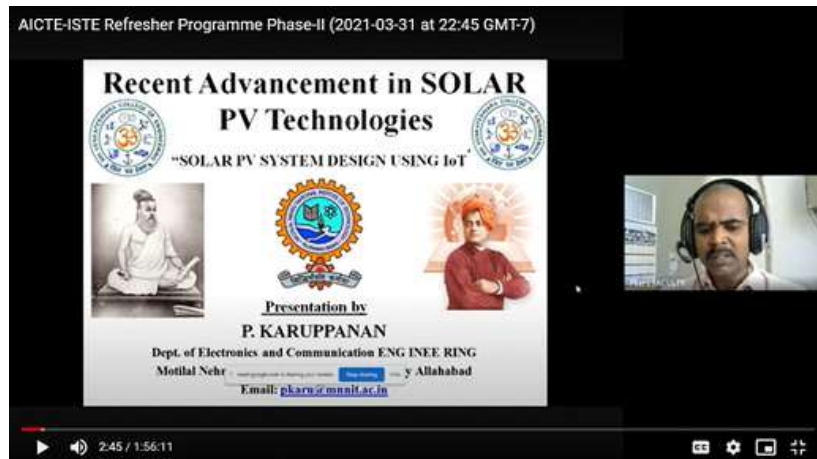
Session-01  
01/04/2021



On 01.04.2021, Dr. B. Chitti Babu, Assistant Professor (Sr. Grade), Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kancheepuram delivered lecture on “Investigation on the Advanced Control Strategies of Grid-Tied Solar PV System”. Various advanced control strategies of the grid-interconnected Solar PV System and its analysis were discussed in detail.



# Session-02



On 01.04.2021, Dr. P. Karuppanan, Assistant Professor, Motilal Nehru National Institute of Technology, Allahabad presented the lecture on "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.

# Session-03

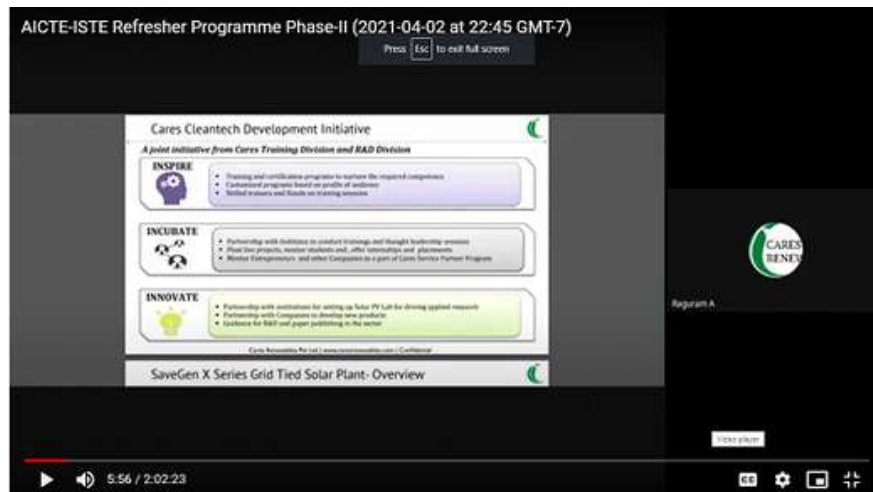


On 01.04.2021, Dr. M. Srinivasan, Research Associate, SSN Research Centre discussed on "Solar Cell Efficiency Enhancement" in detail. He discussed about the various materials used for the fabrication of solar cell and technologies for improvement of cell efficiency.

# DAY-03

# Session-02

03/04/2021



On day 3, Session #2 on 03.04.2021, Thiru. Raguram Arjunan, Co-Founder & Director of Operations at Cares Renewables gave a lecture on “Solar PV System Design” and clearly explained about the simulation of PV systems.

# Session-03



On day 3, Session #3 on 03.04.2021, 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.

# DAY-04

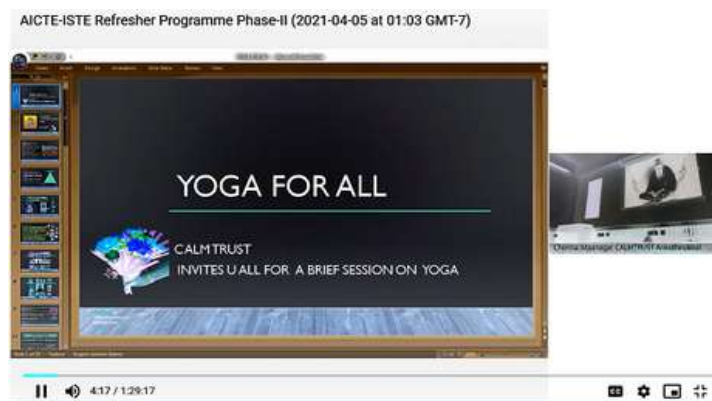
# Session-1&2

05/04/2021



On 05.04.2021, Thiru. Sumit Gupta, Pragma Solar handled the session "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 system software.

# Session-03



The session 3 on 05.04.2021, 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.



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**PROGRAMME**

on

**“Solar PV SyStem DeSign USing iot”**

**phase III**

**5th May**

**Dr. K.Srinivas Reddy,**

Professor, Indian Institute of

Technology Madras

will inaugurate and deliver the inaugural address

**Dr.M.Sivanandham,**

Secretary, Sri Venkateswara Educational and Health Trust

&

**Dr.S.Ganesh Vaidyanathan,**

Principal, Sri Venkateswara College of Engineering

will preside over the function





# PROGRAM SCHEDULE

Date	Session 1	Session 2	Session 3
Time	9.30 AM to 11.00 AM	11.30 AM to 1.00 PM	2.00 PM to 3.30 PM
05/05/2021	<p>Inaugural Address – “Solar PV and CPV system for sustainable energy solutions through IoT”</p> <p><b>Dr.K.Srinivas Reddy</b> Professor Department of Mechanical Engineering Indian Institute of Technology Madras Honorary Professor, Clean Technologies University of Exeter, Penryn campus Cornwall, UK</p>	<p>“Design checks of Data Monitoring in a Solar PV Power Plants: An Overview”</p> <p><b>Dr.PG. Nikhil</b> Assistant Director (Technical) National Institute of Solar Energy, (Ministry of New and Renewable Energy, Government of India) Haryana</p>	<p>“Solar cell efficiency enhancement”</p> <p><b>Dr. M. Srinivasan</b> Research Scientist Modeling group SSN Research Centre Chennai</p>
06/05/2021	<p>“Investigation on the advanced control strategies of Grid-Tied Solar PV system”</p> <p><b>Dr. B. Chitti Babu</b> Indian Institute of Information Technology, Design &amp; Manufacturing (Under Ministry of Education, Govt. of India) Kancheepuram</p>	<p>“Recent advances in Solar PV technologies”</p> <p><b>Dr. P. Karuppanan</b> Motilal Nehru National Institute of Technology Allahabad, Uttar Pradesh</p>	<p>“Research Challenges in IoT based Solar PV systems”</p> <p><b>Dr.K.Padmanathan</b> Agni Institute of Technology &amp; Nestlives Pvt. Ltd, Chennai</p>
07/05/2021	<p>“Solar PV system design (off grid, on grid, hybrid)”</p> <p><b>Dr. Chetan Singh Solanki</b> Department of Energy Science and Engineering Indian Institute of Technology Bombay Powai</p>	<p>“Solar PV system design”</p> <p><b>Dr.PG. Nikhil</b> Assistant Director (Technical) National Institute of Solar Energy, (Ministry of New and Renewable Energy, Government of India) Haryana</p>	<p>“IoT fundamentals”</p> <p><b>Dr. Tapan Kumar Jain</b> Indian Institute of Information Technology, Nagpur</p>
08/05/2021	<p>“Role of IoT in Solar PV systems”</p> <p><b>Thiru. Sumit Gupta</b> Founder &amp; CEO Pragya Solar Uttar Pradesh</p>		<p>“Yoga for Stress Management”</p> <p><b>Vethathiri Maharishi Foundation</b> Chennai</p>
10/05/2021	<p>“Hands on session on IoT based Solar PV systems”</p> <p><b>Thiru.S.Selvakumar</b> Business Head Power Projects, Chennai</p>		
11/05/2021	<p>“National Educational Policy 2020”</p> <p><b>MHRD / AICTE Officials</b></p>	<p>Assessment Test / Feedback</p>	<p>Valedictory Address</p> <p><b>AICTE / ISTE Officials</b></p>

# CHEIF GUEST



Dr.K.Srinivas Reddy FNAE

Professor

Department of Mechanical Engineering,  
IIT Madras, Chennai-600 036

Email : ksreddy@iitm.ac.in; dr\_k\_s\_reddy@yahoo.co.in

Dr. K. SRINIVAS REDDY obtained his PhD from Indian Institute of Technology Delhi in Energy Studies in 1999. He then joined National Institute of Technology Warangal in June 1999, after a brief service of about 4 years at NITW, he joined IIT Madras in April 2003 as an Assistant Professor. Presently, Dr. Reddy is a Professor of Mechanical Engineering at IIT Madras and he is also an honorary professor at University of Exeter, UK. He also served as an Adjunct Professor at CEERI-CSIR, Chennai during 2014-17

Prof. Reddy is actively involved in the implementation of solar thermal technologies for power generation and process heat applications through “Design-Development-Demonstration-Deployment (4-D)” approach. He has secured research funding (about USD15m) as Principal Investigator (PI) of more than 30 research projects related to solar energy, energy & environment and heat transfer areas supported by various Indian and foreign funding agencies such as DST, CSIR, MNRE, AICTE, RCUK, EPSRC, IGCS, UKIERI and ICIMPACT. His work on estimation of thermal conductivity & thermo-physical properties and characterization of engineering materials significantly benefited the industrial associates for development of energy efficient thermal insulation materials. In recognition of his research work, Dr. Reddy received awards such as WSSET Innovation award, the Mid-Career Level Institute Research and Development Award (IRDA) Shri J.C.Bose Patent award and twice, the Bhagyalakshmi and Krishna Ayengar Awards. He also won career award for young teachers from AICTE in 2003. He served as member in Board of Governors, IIT Tirupati during 2018-23. He is an expert committee member in various selection/review committees and the Visitor’s nominee for IITs and NITs. As a part of human resource developmental activities, he supervised over 200 research students, most of them are well placed and working now in prestigious organizations. He organized several national & international workshops on advanced renewable energy technologies.

DAY-01

*Session-01*  
05/04/2021

The inaugural function of the Refresher Programme was held on 05th May 2021 at 9:30 AM. The welcome address was delivered by the Programme Coordinator Dr. C. Gopinath, Associate Professor from the Department of EEE/SVCE.

Dr. KR. Santha, the **Vice Principal, Professor and Head, Department of EEE / SVCE as well as Coordinator** of this program briefed the participants on the happenings of the past two phases of the event and the success of it. Madam also spoke about the objectives of the event and the use of Solar energy to meet the current energy crisis hitting the globe.

Dr. Sudhakar K Bharatan, Professor and Assistant Head, Department of EEE, SVCE introduced the Chief Guest, Dr. K. Srinivas Reddy, Keynote Session Professor, Indian Institute of Technology- Madras who inaugurated the event and delivered the inaugural address to the eager audience.

After an elaborate keynote session, the Vote of Thanks was delivered by the Coordinator Mr. D.S. Purushothaman, Asst. Prof/ EEE, SVCE.



## *Session-02*

on 05.05.2021, Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy, discussed in detailed about the “Design Checks of Data Monitoring in a Solar PV Power Plants: An Overview”. In which Solar PV Power Plant’s various parameter monitoring cum adjustments were discussed.

## *Session-03*

on 05.05.2021, 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.



DAY-02

*Session-01*  
06/04/2021

on 06.05.2021, Dr.V.S.K.V.Harish, Department of Electrical Engineering, Pandit Deendayal Energy University delivered a lecture on “Harnessing Solar Energy for Rural Electrification”. The lecture detailed on how solar energy could be used to light up the rural parts of India and across the world.

*Session-02*

on 06.05.2021, Dr. P. Karuppanan, Associate Professor, Motilal Nehru National Institute of Technology, Allahabad presented the lecture on “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.

# *Session-03*

on 06.05.2021, Dr. K. Padmanathan, Agni Institute of Technology & Nestlives Pvt. Ltd addressed on “Research Challenges in IoT based Solar PV Systems” where he briefed about how IOT is helping to revolutionize the field of Solar.

## DAY-03

# *Session-01*

07/04/2021

On day 3, the first session was handled by Dr. Chetan Singh Solanki, Department of Energy Science and Engineering, Indian Institute of Technology, Bombay who delivered a speech on “Solar PV System Design”. He elaborated on the importance of the solar energy and its impact on the environmental changes

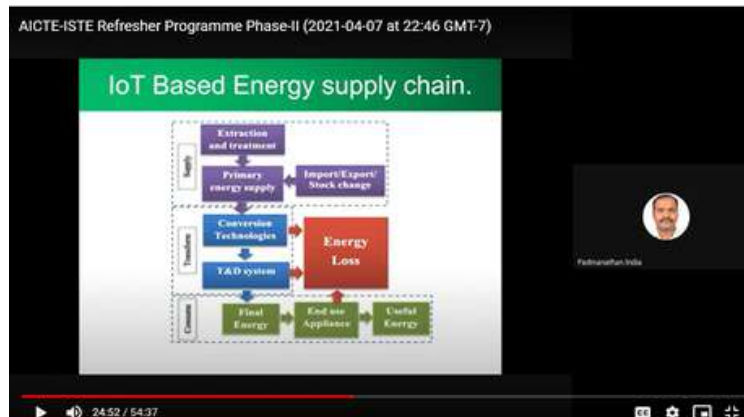
## *Session-02*

Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy delivered a lecture to the participants on "Design of Solar PV system using simulation software". He taught the use of Helioscope Software, which gave an insight to the participants in solar PV systems design.

## *Session-03*

On Day 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.

# ROLE OF IOT IN SOLAR PV SYSTEM DESIGN



On 08.05.2021 (Day 4), the first and second session was handled by Thiru. Sumit Gupta, Pragma Solar on the topic “Role of IoT in Solar PV System Design”. The design of a string inverter system and how IOT is being used to export the power output from PV and the effect of environmental conditions were explained clearly. He also discussed the different types of analytics for solar utilities which were demonstrated to the participants.

# YOGA FOR STRESS MANAGEMENT

The session 3 on 08.05.2021, 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. Thiru. K. Manohar discussed managing Mental & Emotional Development, Stress management, Meditation, Human values and Ethics, Health and Happiness etc.,



# 10/04/2021

Thiru. S. Selvakumar, Power Projects handled the “Hands on Session on IoT based Solar PV systems” which gave an insight to the participants in integrating IoT with solar PV systems on all the three sessions on 10th May 2021.

# 11/04/2021

On the last day of the program, 11th May 2021, an online Assessment test was conducted and feedback was received from the participants.

The session 2 on 11th May 2021 was handled by Col. B Venkat, Director (Faculty Development), **AICTE, New Delhi** on the National Educational Policy 2020.

On the whole, the event has turned out to be a huge success with a total of 185 participants from 87 AICTE approved institutions across the nation.

I thank AICTE and ISTE for having the trust in us and motivating us to conduct this Refresher Programme on “SOLAR PV SYSTEM DESIGN USING IoT”.

We look forward to working and delivering many more similar kind of knowledge sharing events which would help us grow together to build a stronger nation.

# PARTICIPANTS DETAILS

<b>PARTICIPANTS</b>	<b>PHASE-I 03/03/2021 TO 09/03/2021</b>	<b>PHASE-II 31/3/2021 TO 8/4/2021</b>	<b>PHASE-III 5/5/2021 TO 11/5/2021</b>
<b>Participated AICTE approved institutes</b>	35	27	25
Faculty (ISTE Member)	20	25	10
Internal Faculty (ISTE Member)	5	6	5
Faculty (Non-ISTE Member)	28	24	25
Technical Staff	---	7	2
Industry Persons	7	1	1
Research Scholars	3	3	2
Student	7	1	3
<b>Total Participants</b>	<b>70</b>	<b>67</b>	<b>48</b>