



## Sandip Institute of Technology and Research Centre

At & Po – Mahirawani, Trimbak Road, Tal & Dist. – Nashik

Phone: (02594) 222552, 53, 54, Fax: (02594) 222555

website: [www.sandipfoundation.org](http://www.sandipfoundation.org), e-mail: [principal@sitrc.org](mailto:principal@sitrc.org)

(Approved by AICTE, New Delhi & Govt. of Maharashtra and Permanently Affiliated to Savitribai Phule Pune University (Formerly Pune University), Pune.)

Accredited with "A" grade by NAAC With CGPA Score of 3.11



### DEPARTMENT OF ELECTRICAL ENGINEERING

(A. Y 2023-24)

17/10/2023

#### Notice

It is hereby informed to all students that the department of Electrical Engineering is going to organize a guest lecture on "Recent Trends on Renewable Energy Resources" in online mode. The guest lecture will be delivered by Prof. Kanasottu Anil Naik of NIT, Warangal. The main aim of this lecture is to aware the students about recent inventions and developments going on in the field of renewable energy resources. This guest lecture is related with capacity development and skills enhancement of the students.

The details of venue and schedule are given below.

**Event Title:** Guest Lecture on Recent Trends on Renewable Energy Resources

**Event Date:** 18<sup>th</sup> October, 2023

**Event Conduction Duration:** 2 Hrs. (2:00-4:00PM)


**Event Venue:** online mode

**Link of the lecture:** <https://meet.google.com/vzz-usjj-hhm>

**Name of Resource Person:** Dr. Kanasottu Anil Naik, Assistant Professor, Electrical Engineering Department, National Institute of Technology, Warangal, Telangana

**Name of Event Co-Ordinator:** Dr. Suresh Babu, and Dr. O. P. Yadav



  
Dr. Nitin S. Patil  
HOD, Electrical Engineering  
SITRC, Nashik  
Head of Department  
Electrical Engineering

Copy to:

- Principal sir for your kind information and approval

Sandip Institute of Technology and Research Centre  
Mahirawani, Nashik-422213



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### **DEPARTMENT OF ELECTRICAL ENGINEERING (A.Y 2023-24)**

19/10/2023

#### **Report on Guest Lecture Related to Capacity Development and Skills Enhancement**

The Department of Electrical Engineering organized a guest lecture on "Recent Trends on Renewable Energy Resources" for TE and BE students on 18/10/2023 in online mode. The lecture was delivered by Dr. Kanasottu Anil Naik, Assistant Professor, Electrical Engineering Department of NIT, Warangal. During this lecture, he discussed the various renewable energy resources, their utilization trends in India, and the major challenges for grid integration of these energy resources. He also discussed the research trends going on in the field of solar PV cells and wind energy. The details of the event are given as below.

**Event Title:** Guest Lecture on Recent Trends on Renewable Energy Resources

**Event Date:** 18<sup>th</sup> October, 2023

**Event Conduction Duration:** 2:00-4:00PM (2 Hrs.)

**Event Venue:** online mode

**Name of Resource Person:** Dr. Anil Naik, Assistant Professor, Electrical Engineering Department, National Institute of Technology, Warangal, Telangana

**Name of Event Co-ordinator:** Dr. Suresh Babu, and Dr. O. P. Yadav

**Total Participants:** 80-TE and BE Students



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### **DEPARTMENT OF ELECTRICAL ENGINEERING (A.Y 2023-24)**

#### **Guest Lecture on Recent Trends on Renewable Energy Resources**

##### **Event Objective:**

The main objective of this workshop is to aware the students about

1. Various renewable energy resources and their availability in India.
2. Recent technological development to enhance the efficiency solar cell.
3. Utilization of renewable energy resources in development of India.
4. Grid integration of solar and wind energy.
5. Major research trends in the field of solar and wind energy.

##### **Outcomes:**

After completion of course the students will be able to understand

1. Discriminate renewable and non-renewable resources
2. Availability of renewable energy resources in different regions of India and their effective utilization
3. The various challenges occurring in integration of solar energy and wind energy with the grid.
4. The research scopes in the wind and solar photo voltaic cell.





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## DEPARTMENT OF ELECTRICAL ENGINEERING

(A.Y 2023-24)

### Guest Lecture on Recent Trends on Renewable Energy Resources

#### Snapshots of Guest Lecture

Anil K Naik (Presenting)

### Impact of RES in to power system

Energy sources, renewable identification, and conversion type

Energy Source	Variable	Intermittent	Conversion Type
Solar PV	Yes	Yes	Power Electronic
Wind Turbine	Yes	Yes	Power Electronic
Hydroelectric	Yes	No	Power Electronic
Geothermal	Yes	No	Power Electronic
Biomass	Yes	No	Power Electronic
Wave	Yes	No	Power Electronic
Tidal	Yes	No	Power Electronic
Hydrogen	Yes	No	Power Electronic
Energy Storage	Yes	No	Power Electronic
Energy Conversion	Yes	No	Power Electronic

- AC-to-DC conversion (Inverters)
- DC-to-AC conversion (Converters)
- DC-to-DC conversion (Converters)
- AC-to-AC conversion

3:03 PM | vzz-usj-j-hhm

(a)

Anil K Naik (Presenting)

### Variable speed WES

Variable speed WES configuration

- 1) Independent control of active and reactive power by employing back-to-back voltage source converter.
- 2) Converter rating can be kept fairly low (approximately 25%-30% of the total machine power).
- 3) Speed range upto 300%.
- 4) Rotor-side converter is not required.

Currently, DFIG based WES occupies close to 50% among the total wind power generation.

2:56 PM | vzz-usj-j-hhm



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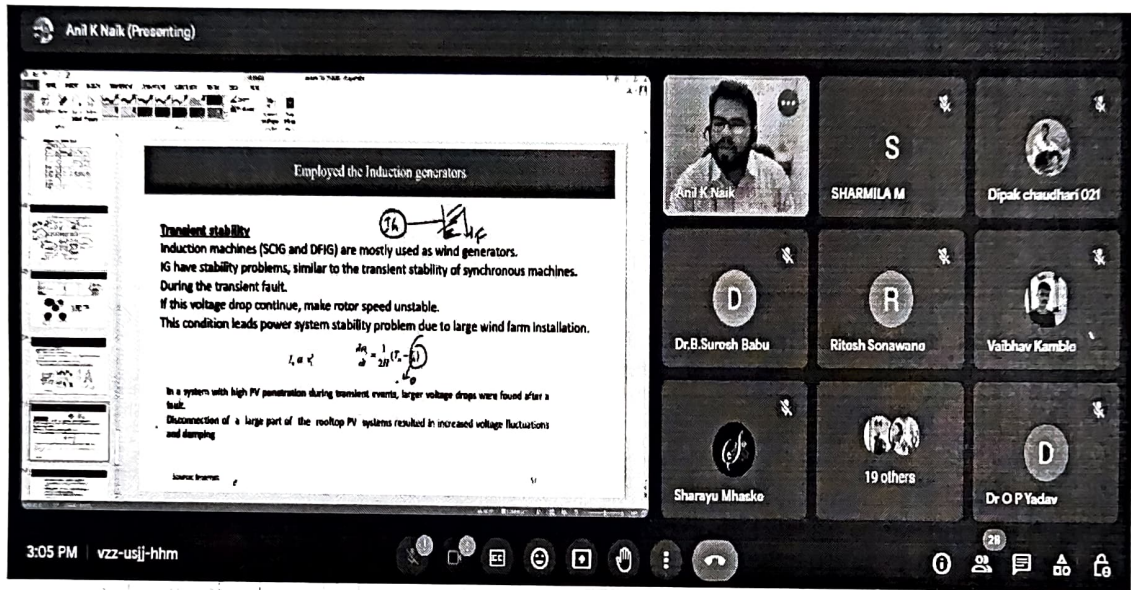


## DEPARTMENT OF ELECTRICAL ENGINEERING

(A.Y 2023-24)

(b)

### Guest Lecture on Recent Trends on Renewable Energy Resources



(c)

Figure (a) (b) (c): Dr Anil K Naik discussing the different technologies used in renewable energy resources



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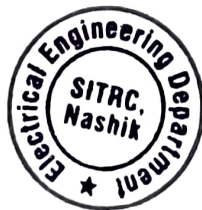


### DEPARTMENT OF ELECTRICAL ENGINEERING

(A.Y 2023-24)

List of Students

Feedback Form		
Guest Lecture on "Recent Trends on Renewable Energy Resources		
18 <sup>th</sup> October, 2023		
Please rate between 1 to 5		
(5-excellent and 1-poor)		
Name of Candidate:	Date of Course-----	Duration----
The lecture was informative and deterministic to find the path of success		
This course was helpful in deciding a clear vision of success		
The lecture was interactive and felt engaged		
Speaker positively influenced my view towards the topic		
Any Suggestion		



Head of Department  
Electrical Engineering

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