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# TECHNICAL REPORT

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One-Week Faculty Development Programme on “Smart Use of Renewable Energy Resources for Sustainable Future” February 21 to 25, 2022



Department of Mechanical Engineering  
**Swami Keshvanand Institute of Technology, Management  
and Gramothan**

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## Approval letter of the Event

Swami Keshvnand Institute of Technology, Management & Gramothan, Jaipur

Department of Mechanical Engineering

Date: 27.08.2021

Note

**Subject: Proposals from ME Deptt. for online events for the session:2021-22**

Following proposals for conduction of online events (FDP/STTP/Conference/Expert Lecture) are being submitted for your kind approval:

S.No.	Proposed Event Title	Event Type	Faculty Coordinators	Tentative Dates	Duration	Budget
1	Industrial Automation and Smart Manufacturing	STTP	Dr. Manoj Kumar Sain Mr. Praveen Saraswat Mr. Brij Mohan Sharma	22-26 November, 2021	5 Days	30,000/-
2	Smart Use of Renewable energy resources for sustainable futureRenewable Energy	FDP	Dr. Chandan Kumar Mr. Ankit Agarwal Mr. Dinesh Sharma	6-10 December, 2021	5 days	30,000/-
3	Advanced Optimization Techniques and their Applications (AOTA) -2021	FDP	Dr. Prem Singh Sudesh Gang Vinay Marwal	13-18 December, 2021	5 days	30,000/-
4	International Conference on "Mechatronics Applications in Manufacturing and Automation" (ICMAMA-2021-22)	Conference	Dr. Vikash Gautam Dr. Prem Singh Mr. Sudesh Gang	20-22 January, 2022	3 days	25000/-
5	Student workshop on Data Analytics & Research Methodology	Workshop	Dr. Achin Srivastav Dr. Chandan Kumar Mr. Praveen Saraswat Dr. Manoj Kumar Sain	8-12 February, 2022	5 Days	30,000/-
6	International Conference on "Smart Industries and Manufacturing Systems" (SIMS-2022)	Conference	Dr. Manoj Kumar Sain Mr. Praveen Saraswat	23-25 June, 2022	3 Days	25000/-
7	Expert lecture series	Expert Lecture	Dr. Deepak Kumar (Coordinator)	6 lectures	2 Hour each lecture	10000/-

Permitted and  
Principal Forwarded to Registrar  
for consideration.  
P-h  
27.08.21

Dr. Dheeraj Joshi  
HOD, ME

Approved  
27/8/2021

Event Brochure



# Faculty Development Programme

on



## “Smart Use of Renewable Energy Resources for Sustainable Future” (Surer-2022) (FEBRUARY 21 – 25, 2022)

*Organized By*

**(Department of Mechanical Engineering)**  
**Swami Keshvanand Institute of Technology,  
Management & Gramothan, Jaipur**



*No Registration Fee*



*Last Date of Registration  
18<sup>th</sup> February, 2022*



*Email: [fdp\\_me@skit.ac.in](mailto:fdp_me@skit.ac.in)*



Registration Link: <https://forms.gle/xj46YjjPwVoS2QCr7>

**Swami Keshvanand Institute of Technology, Management &  
Gramothan, Ramnagar, Jagatpura, Jaipur – 302017**

**Web: [www.skit.ac.in](http://www.skit.ac.in), Phone: +911415160463**



### **About SKIT - Jaipur**

SKIT – Jaipur was established in the year 2000 as an embodiment of the teachings of Swami Keshvanand. The Institute is affiliated to Rajasthan Technical University, Kota for offering Graduate and Under-graduate Courses in Engineering and Management. As of today, SKIT-Jaipur is consecutively fourth time ranked No. 1 institute by Rajasthan Technical University, Kota. Located in the Pink City Jaipur, which is a blend of traditional history and modern outlook, SKIT is putting in efforts for making industry ready engineers and managers through effective Industry –Institute Interface. Apart from the University curriculum, SKIT also pursues activities for research and development in various fields. The green landscaping, aesthetic elegance of arches and the vibrant pursuit of knowledge by the young aspirants make the environment serene, pleasant and dynamic. Students joining the institute share the box full of opportunities for **professional** and **personal development** through an environment of practical orientation, industrial interaction and student led activities which help the students to develop **good communication skills**, integrated personality and greater competitive spirit. You are most welcome to visit our website <http://www.skit.ac.in/> to gain more insight about SKIT.

### **About Department of Mechanical Engineering (SKIT – Jaipur)**

The department started academic activities in the year 2003-04 with the admission of its first batch of under-graduates. The department offers B.Tech Program (Mechanical Engg.), M.Tech Program (Production Engg. and Renewable Energy Technology) and Ph.D. Program (Mechanical Engg.) approved by RTU, Kota. The department has modern laboratories developed and designed from the perspective of the latest requirements of academia. Consistent pursuit of excellence by the department is clearly reflected in the fact that the department has already been accredited and re-accredited by the **National Board of Accreditation (NBA)** (India). The department has developed its facilities in such a way that students can practice self-study and undertake other curricular activities. Special attention is paid for developing positive attitudes, leadership, group working and safety consciousness in the students.

### **Outcomes of The Faculty Development Programme**

After attending this FDP, an attendee will be able to:

- Highlight the role of renewable energy resources for a sustainable future.
- Analyze the design and performance of renewable energy systems.
- Get acquainted with the recent advancements in the field of renewable energy.
- Analyze the smart use of renewable energy resources for sustainable development.
- Aware about initiatives taken by government bodies to support renewable energy sector.



# **[SURER-2022]**

## ***EMINENT SPEAKERS***



**Dr. M. V. Reddy**  
Senior Researcher, Inst. of  
Research Hydro-Quebec, Canada



**Prof. Dilip Sharma**  
Professor,  
MNIT, Jaipur



**Prof. Dharam Buddhi**  
Dean (R &D),  
LPU, Punjab



**Prof. Deepak Sharma**  
College of Engineering and  
Technology, Udaipur



**Dr. K. Sudhakaran**  
Faculty of Mech. Engg.  
Univ. Malaysia, Pahang



**Dr. Anil Kumar**  
Mechanical Dept,  
DTU, Delhi



**Dr. Brijesh Tripathi**  
Mechanical Dept,  
RTU, Kota



**Dr. K. B. Rana**  
Mechanical Dept,  
RTU, Kota



**Sriman Girdhari Das**  
Akshay Patra Foundation,  
Jaipur

## **PATRONS**



Sh. Raja Ram Meel  
Patron, SKIT



Sh. Surja Ram Meel  
Chairman, SKIT

## **ADVISORS**



Sh. Jaipal Meel  
Director, SKIT



Prof. S. L. Surana  
Director (Academics), SKIT



Dr. Ramesh Kr. Pachar  
Principal, SKIT



Smt. Rachna Meel  
Registrar, SKIT



Dr. R. K. Jain  
Dean, SKIT



Dr. Dheeraj Joshi  
Head, ME, SKIT



Dr. Ashish Nayyar  
Professor, ME, SKIT

## **Contents of Faculty Development Programme**

- Solar Thermal Systems
- Solar PV Advancements
- Bio-originated Fuels for IC Engines
- Thermal Energy Storage
- Wind Energy Potential and Applications
- Energy System Modelling and Simulation
- Government Initiatives to Promote Renewable Energy

### **Coordinators**

Dr. Chandan Kumar (+91 9460481589)  
Mr. Dinesh Kumar Sharma (+91 9785449998)  
Mr. Ankit Agarwal (+91 9887222265)

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### **Organizing Committee**

Dr. Amit Jhalani  
Mr. Arun Beniwal  
Mr. Naveen Kumar Sain  
Ms. Namita Soni  
Mr. Sandeep Bhaskar



## Schedule of the Event



**Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur**

*Faculty Development Program on*

***“Smart Use of Renewable Energy Resources for Sustainable Future” (SURER-2022)***

**(FEBRUARY 21 – 25, 2022)**



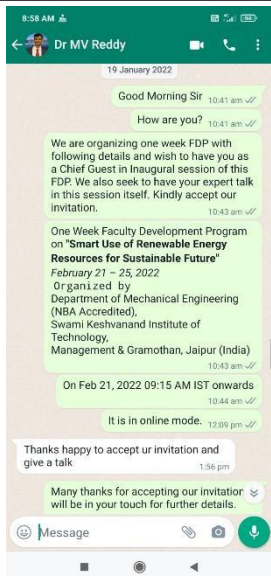

### Schedule of the Program

Day/Date	Session – I 09.30 AM - 11.00 AM	Session – II 11.30 AM - 01.00 PM
Monday 21.02.2022	<b>Inaugural Session (09.00-09.30 AM)</b> <a href="http://shorturl.at/luxD2">http://shorturl.at/luxD2</a> Advances in high energy storage materials for Electric Dr. M.V. Reddy, Institute of Research Hydro-Quebec, Canada Link: <a href="http://shorturl.at/luxD2">http://shorturl.at/luxD2</a>	<b>Prospectus of Solar Energy Applications in Industry</b> Dr. Anil Kumar, DTU, Delhi Link: <a href="http://shorturl.at/luxD2">http://shorturl.at/luxD2</a>
Tuesday 22.02.2022	<b>Modelling and Simulation of Wind Turbine</b> Dr. Brijesh Tripathi, RTU, Kota Link: <a href="http://shorturl.at/dwySX">http://shorturl.at/dwySX</a>	<b>Research and Development Schemes for Renewable Energy</b> Mr. Vikas Shinde, MPCST, Bhopal Link: <a href="http://shorturl.at/dwySX">http://shorturl.at/dwySX</a>
Wednesday 23.02.2022	<b>Hydrogen fuels in IC engines</b> Prof. Dilip Sharma, MNIT, Jaipur Link: <a href="http://shorturl.at/jkCI8">http://shorturl.at/jkCI8</a>	<b>Science and Spirituality</b> Shriman Girdhari Das, Akshay Patra Foundation, Jaipur Link: <a href="http://shorturl.at/jkCI8">http://shorturl.at/jkCI8</a>
Thursday 24.02.2022	<b>Practicing Sustainability in our Daily Life through Renewable Energy Resources</b> Prof. Deepak Sharma, College of Engineering and Technology, Udaipur Link: <a href="http://shorturl.at/foBRW">http://shorturl.at/foBRW</a>	<b>Performance Analysis of Wind Mill</b> Dr. Kunj Bihari Rana, RTU, Kota Link: <a href="http://shorturl.at/foBRW">http://shorturl.at/foBRW</a>
Friday 25.02.2022	<b>Thermal Energy Storage</b> Prof. Dharam Buddhi, LPU, Punjab Link: <a href="http://shorturl.at/lqP56">http://shorturl.at/lqP56</a>	<b>Energy Transition and Sustainability: The New Era of Mankind</b> Dr. K. Sudhakaran, Universiti of Malaysia, Pahang Link: <a href="http://shorturl.at/lqP56">http://shorturl.at/lqP56</a> <b>Valedictory Session (01.00-01.30 PM)</b> <a href="http://shorturl.at/lqP56">http://shorturl.at/lqP56</a>



*Note: The event is being hosted on CISCO Webex platform and the link for the sessions are provided here.*

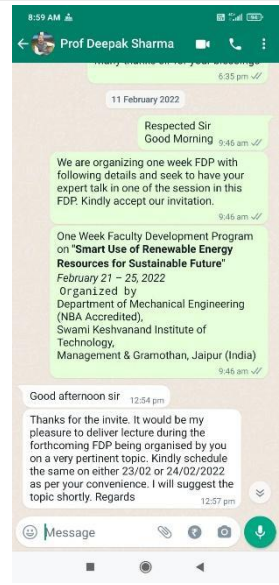
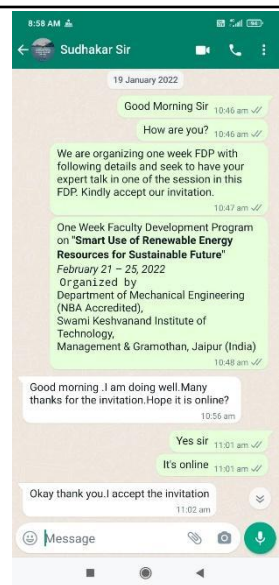
Organising Team  
FDP SURER-2022

## List of Invited Guest/Speakers

S. No.	Name of Expert	Designation & Organisation	Contact	Consent
1	Dr. M.V. Reddy	Senior Researcher, Institute of Research Hydro-Quebec, Canada	+1 (514) 2269783 reddymvvr@gmail.com	
2	Dr. Anil Kumar	Associate Professor, Delhi Technical University, Delhi	9425680448 <a href="mailto:anilkumar76@dtu.ac.in">anilkumar76@dtu.ac.in</a>	



S. No.	Name of Expert	Designation & Organisation	Contact	Consent
3	Dr. Brijesh Tripathi	Associate Professor, Rajasthan Technical University, Kota	9891855857 btripathi@rtu.ac.in	 <p>The screenshot shows a WhatsApp conversation with RTU Brijesh Tripathi. The messages include: "Good morning sir", "How are you?", and a detailed invitation for a "One Week Faculty Development Program on 'Smart Use of Renewable Energy Resources for Sustainable Future'" scheduled for February 21-25, 2022, at Swami Keshvanand Institute of Technology, Management &amp; Gramothan, Jaipur. The expert responds with "Ok I am happy to accept it".</p>
4	Mr. Vikas Shinde	Principal Scientist, M. P. Council of Science and Technology Bhopal	9926365747 shende.v@gmail.com	Telephonically confirmed.
5	Dr. Dilip Sharma	Professor, Malaviya National Institute of Technology, Jaipur	9414250328 sharmadmni@gmail.com	 <p>The screenshot shows a WhatsApp conversation with Dr Dilip Sharma. The messages include: "Respected Sir Good Morning", and the same FDP invitation as above. The expert responds with "Ok" and "Many thanks Sir".</p>
6	Shriman Girdhari Das	Devotee, Akshay Patra Foundation, Jaipur	9116612168 gdgddasa94@gmail.com, gdgd@hkm-group.org	Telephonically confirmed.

S. No.	Name of Expert	Designation & Organisation	Contact	Consent
7	Prof. Deepak Sharma	Professor, College of Engineering and Technology, Udaipur	9414160221 deepshar@rediffmail.com	
8	Dr. Kunj Bihari Rana	Assistant Professor, Rajasthan Technical University, Kota	9468855055 kbrana@rtu.ac.in	Telephonically confirmed.
9	Dr. Dharam Budhdhi	Dean (R &D), Lovely Professional University, Punjab	9660195762 dbuddhi@gmail.com	Telephonically confirmed.
10	Dr. K. Sudhakaran	Assistant Professor, Faculty of Mechanical Engineering, University of Malaysia, Pahang	+60 19 7308925 <a href="mailto:nittsudhakar@gmail.com">nittsudhakar@gmail.com</a> , <a href="mailto:sudhakar@ump.edu.my">sudhakar@ump.edu.my</a>	

## List of registered participants

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S. No.	Full Name	Mobile Number	Email Address	Category	Organisation / Institute Name
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83	ANKIT SHARMA	9828236966	ankitsharma000@gmail.com	Faculty	Arya Institute of Engineering & Technology Jaipur
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## Attendance record

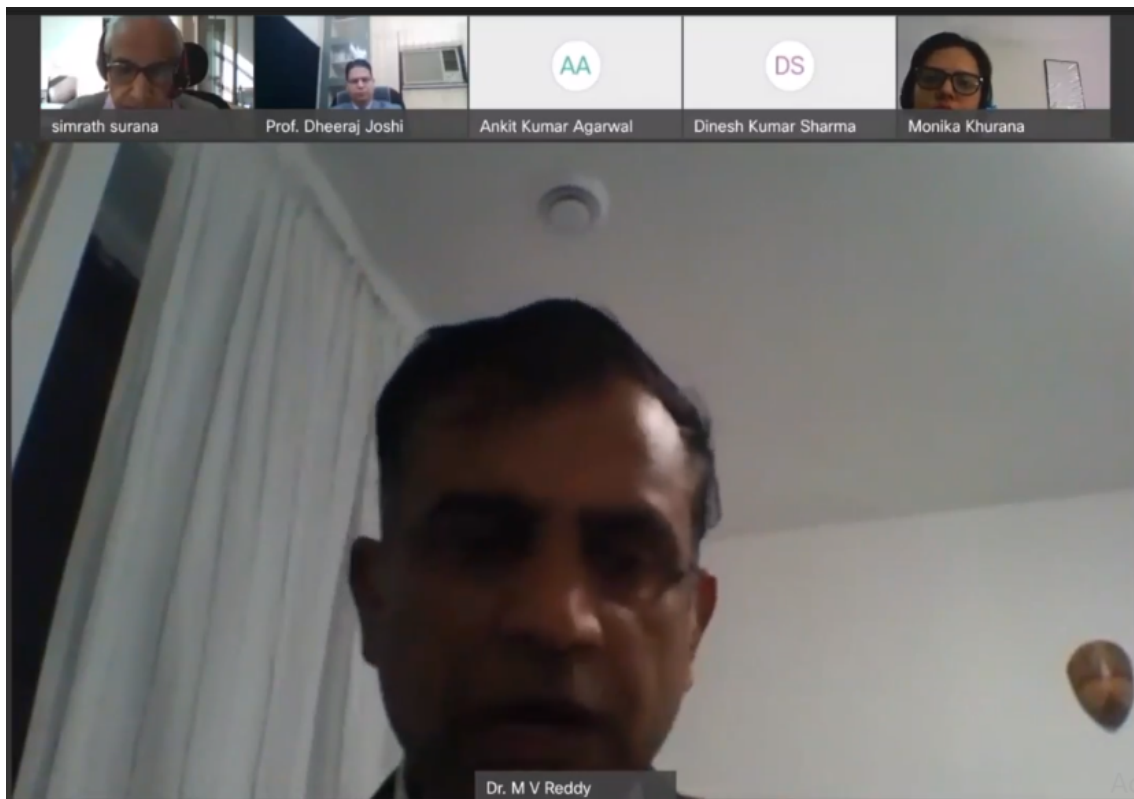
S. No.	Full Name	Attendance Percentage
1	Amit Jhalani	100%
2	Naveen Kumar Sain	40%
3	SAURABH GUPTA	100%
4	CHANDRA MOHAN KUMAR	40%
5	Sandeep Kumar Bhaskar	40%
6	Amit Kumar Bansal	40%
7	Madhukar Kumar	40%
8	Manu Augustine	80%
9	Dinesh Kumar Sharma	100%
10	Nitu singh	100%
11	Deepak Kachhot	100%
12	Prashant Mathur	40%
13	Rishpal pooniya	40%
14	Lalit Kumar Sharma	60%
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20	Vivek Pandey	100%
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108	Lokesh Kumar	100%
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121	Ramireddy Devarapalli	100%
122	Prashant Jethwani	40%

123	RAJ VARDHAN	100%
124	Puneet Mangla	100%
125	Pawan Kumar Yogi	100%
126	Pankaj Mohan Rastogi	100%
127	ANKIT ATAL	40%
128	Ashish Nayyar	60%
129	Dr. Chandan Kumar	100%
130	Prof. Dheeraj Joshi	40%
131	Rahul Khatri	100%
132	Dilip Shrimali	40%
133	Namita Soni	40%
134	Mugutrao Haribhau Tharkar	60%
135	Lav Kumar	80%
136	Rahul Gautam	100%
137	Dr Sanjay Soni	100%
138	Trivendra Sharma	80%
139	Gatika Kumari	100%
140	Amit Kumar Mandal	100%
141	Amit Ashokrao Deogirakar	40%
142	Veeresh Kumar Guggilla	100%
143	Mukesh Kumar Lohar	100%
144	Abhay vasantrao wavare	80%
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147	Akshay Verma	40%
148	Hukum Saini	60%
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153	Yogit Kumar	40%
154	Vishal Kumar sonwal	40%
155	Mohammad zuber khan	60%
156	Sarthak Agarwal	40%
157	Saksham Jain	40%

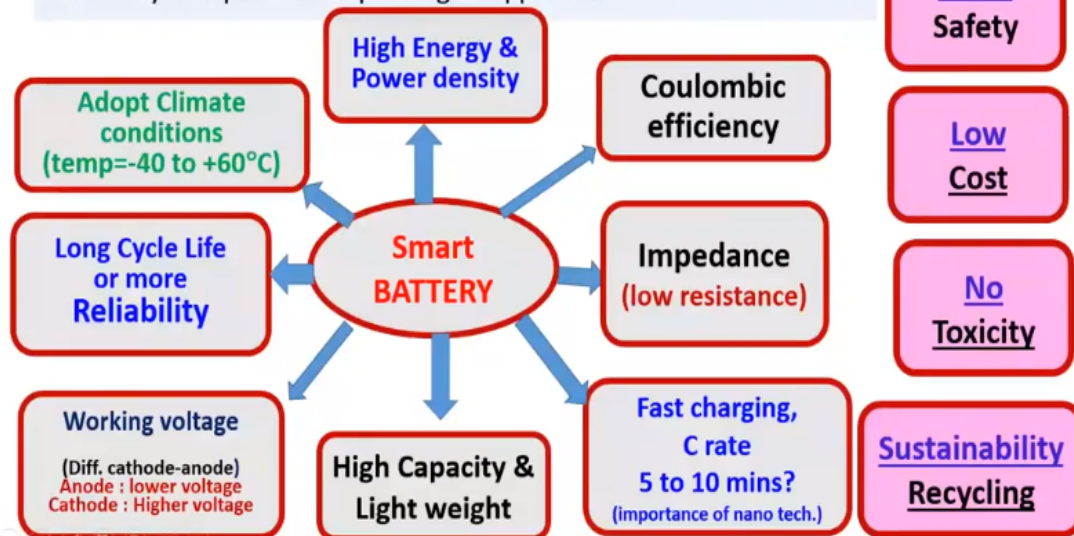
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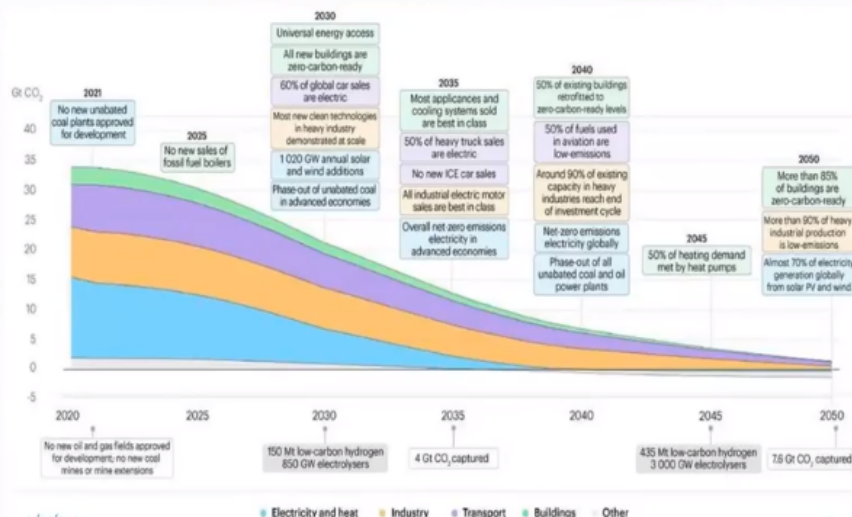


## Smart Materials for Electric Vehicles/Grid

❖ Any kind of battery must meet a range of performance criteria which vary in importance depending on application



## How to achieve carbon neutrality by 2050



				
Dr. Chandan Kumar	Dr. Brajesh Tripathi	Ankit Kumar Agarwal	Dinesh Kumar Sharma	Dr. Amit Jhalani



**Swami Keshvanand Institute of Technology,  
Management & Gramothan, Jaipur**

**(Surer-2022)**






**Day 2 (22 Feb 2022), Session 1**



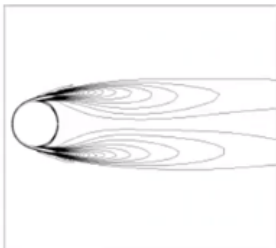
**Topic:**  
**Modelling and Simulation of  
Wind Turbine**

**Dr. Brijesh Tripathi**  
Department of Mechanical Engg.  
Rajasthan Technical University, Kota

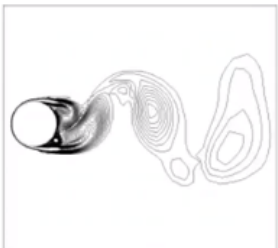
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Dr. Brajesh Tripathi	Dr. Chandan Kumar	Ankit Kumar Agarwal	Dinesh Kumar Sharma	Naveen Sain

**Output**

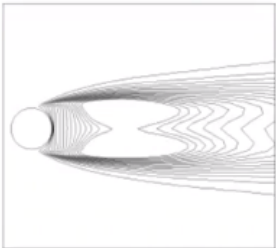


(a)  $k-\omega$  SST




(b) Hybrid RANS-LES


Velocity and TKE  
about the 2D circular  
cylinder



(a)  $k-\omega$  SST



(b) Hybrid RANS-LES

				
Dr. Chandan Kumar	Ankit Kumar Agarwal	Dinesh Kumar Sharma	Naveen Sain	VIKAS SHENDE



**Swami Keshvanand Institute of Technology,  
Management & Gramothan, Jaipur**

**(Surer-2022)**






**Day 2 (22 Feb 2022), Session 2**



**Topic:**  
Research and Development  
Schemes for Renewable Energy

**Mr. Vikas Shende**  
Principal Scientist, Council of Science &  
Technology, Madhya Pradesh






Organized by  
**(Department of Mechanical Engineering, SKIT)**

				
Ankit Kumar Agarwal	Dinesh Kumar Sharma	Dr. Chandan Kumar	Naveen Sain	VIKAS SHENDE


## Opening Remark

---

- India's Higher & Technical education system is on the threshold of major institutional reforms.
- It is the right time to envision a bright future and create the culture of Research & Innovation in the Universities to transform them as Centres of excellence in Teaching & Learning






				
Diip Sharma	Ankit Kumar Agarwal	Ashish Nayyar	Dinesh Sharma	Dinesh Kumar Sharma


## Methods for the use of H<sub>2</sub> in I.C. Engine



1. H<sub>2</sub> alone:-  
In S.I. engine.
2. H<sub>2</sub> + Gasoline.  
In S.I. engine.
3. H<sub>2</sub> + Diesel  
In C.I. engine.
4. H<sub>2</sub> + CNG  
In C.I. engine.

Ac

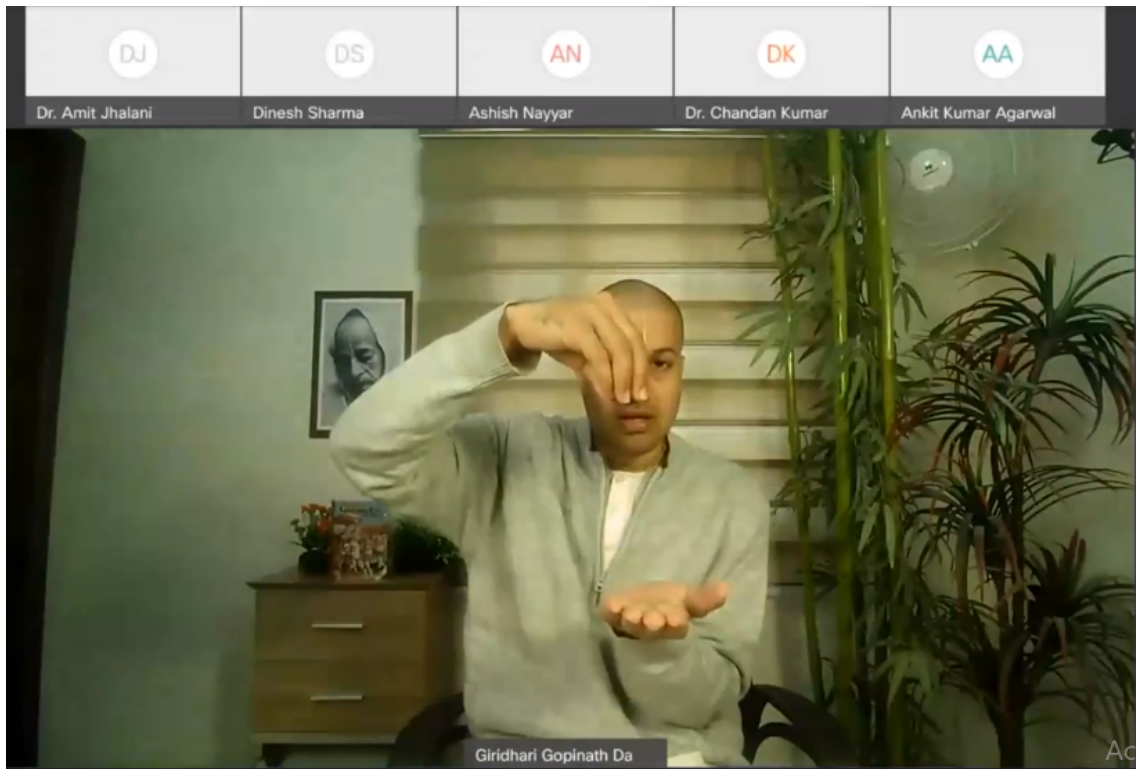
				
Dr. Amit Jhalani	Dinesh Sharma	Ashish Nayyar	Dr. Chandan Kumar	Ankit Kumar Agarwal





Giridhari Gopinath Da

Act





AA		DJ	DK
Ankit Kumar Agarwal	Prof. Deepak Sharma	Dr. Amit Jhalani	Dr. Chandan Kumar

Amul Green Bio Gas Purification and Bottling Plant


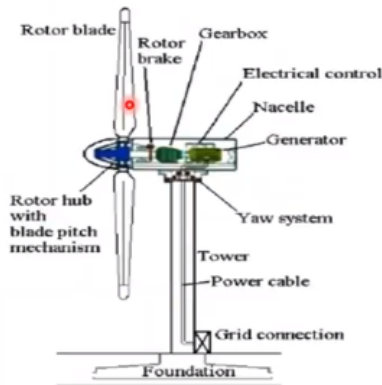
Ac

DR	DJ	AA	DK	DS
Dr K B Rana	Dr. Amit Jhalani	Ankit Kumar Agarwal	Dr. Chandan Kumar	Dinesh Kumar Sharma

### Horizontal axis wind turbines

- The axis or shaft of rotor is parallel to earth surface.
- Commonly used for commercial wind power generation.

**Horizontal Axis wind turbine**

Source - [https://www.researchgate.net/figure/A-typical-configuration-of-a-horizontal-axis-wind-turbine-system-1\\_fig1\\_2309373126](https://www.researchgate.net/figure/A-typical-configuration-of-a-horizontal-axis-wind-turbine-system-1_fig1_2309373126)



<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DR</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DJ</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">AA</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DK</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DS</span>
Dr K B Rana	Dr. Amit Jhalani	Ankit Kumar Agarwal	Dr. Chandan Kumar	Dinesh Kumar Sharma

### Concept of Cylindrical Cowling (CC)

(a) (b)

**Top view of Savonius turbine with cowling CC1**

32

<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DB</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DS</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">AA</span>	<span style="background-color: #e0e0e0; border-radius: 50%; padding: 5px;">DK</span>
Dharam Buddhi	Dinesh Kumar Sharma	Ankit Kumar Agarwal	Dr. Chandan Kumar

## S L POWER/ENERGY SCENARIO

- Installed Capacity : 4000 MW
- SL Energy Consumption per Capita : 650 kWh
- World Average : 3200 kWh
- Europe : 10000 kWh
- Population : 30 Million
- Population density: 325

DB	DS	AA	DK
Dharam Buddhi	Dinesh Kumar Sharma	Ankit Kumar Agarwal	Dr. Chandan Kumar

## Applied Additional Uses for Thermal Energy Storage

- **Reduced fluctuations of chilled water temperature:** Chiller loading/ unloading is temperature based. Thermal storage allows drawing of more cooling when required and reduces temperature fluctuations. Important for areas requiring good humidity control.
- **Short time excess peak meeting capacity:** When loads exceed the design peak when conditions exceed average design value thermal storage allows excess supply to meet such conditions.

dbuddhi@gmail.com

	DS	DS	AA	
sudhakar K	Dinesh Sharma	Dinesh Kumar Sharma	Ankit Kumar Agarwal	Dr. Amit Jhalani



## Energy Transition and Sustainability : The new era

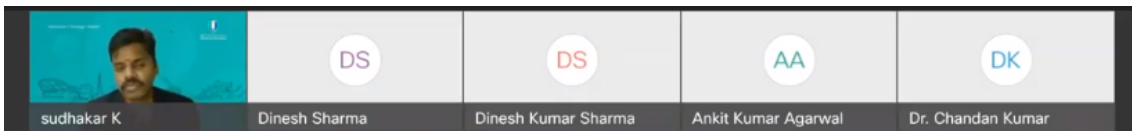
**Dr.Sudhakar Kumarasamy**  
 Faculty of Mechanical and Automotive Engineering Technology  
**Universiti Malaysia Pahang**  
 Email: [sudhakar@ump.edu.my](mailto:sudhakar@ump.edu.my)








5-STAR WORLD CLASS TECHNOLOGICAL UNIVERSITY  
UMPMalaysia



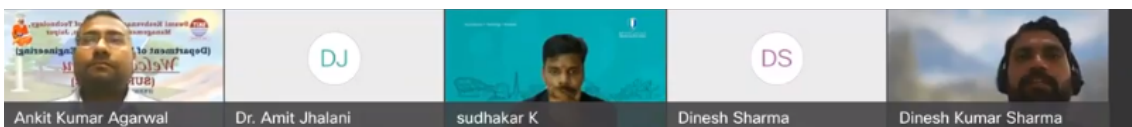
## The Great Energy Challenge : a moral dilemma



Three energy challenges of our generation:

- **First**, ending energy poverty. To ensure universal access to electricity and modern energy sources for cooking and heating.
- **Second**, we need to strengthen economic growth in a way that's equitable and satisfies growing energy demand.
- **Third**, we need to slow the warming of our planet by reducing global emissions.

In essence, we need to **turn on the lights** while **turning down the global thermostat**.





**Swami Keshvanand Institute of Technology,  
Management & Gramothan, Jaipur**

**(Surer-2022)**

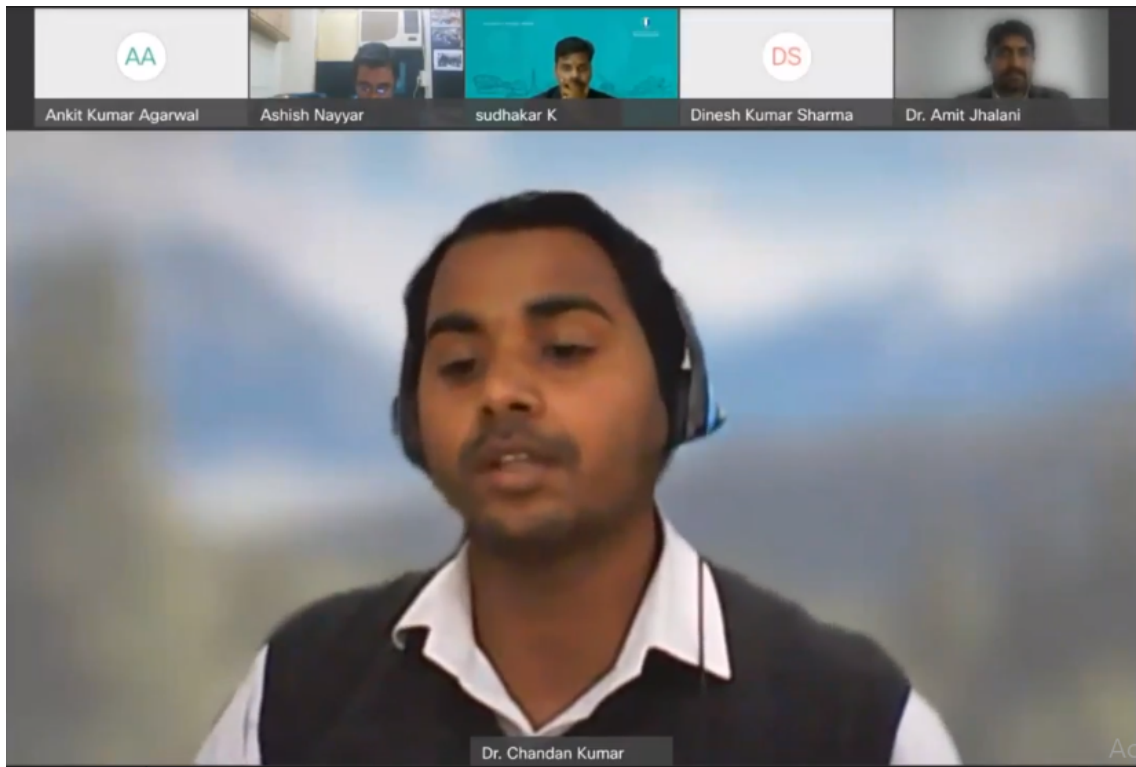
***Technical Report***



**Dinesh Kumar Sharma**  
Coordinator, FDP Surer-2022

Organized by  
**(Department of Mechanical Engineering, SKIT)**

/ 23:59
CC



## Copy of E-certificates



*One-Week  
Faculty Development Programme  
on*

**Smart Use of Renewable Energy Resources  
for Sustainable Future**

Organised by

**Department of Mechanical Engineering**

**Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur**



## **Certificate of Participation**

This is to certify that *Dr. Amit Jhalani* of *Swami Keshvanand Institute of Technology, Management & Gramothan* has participated in the One-Week Faculty Development Programme on "Smart Use of Renewable Energy Resources for Sustainable Future" held from 21/02/2022 to 25/02/2022 at **Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur.**

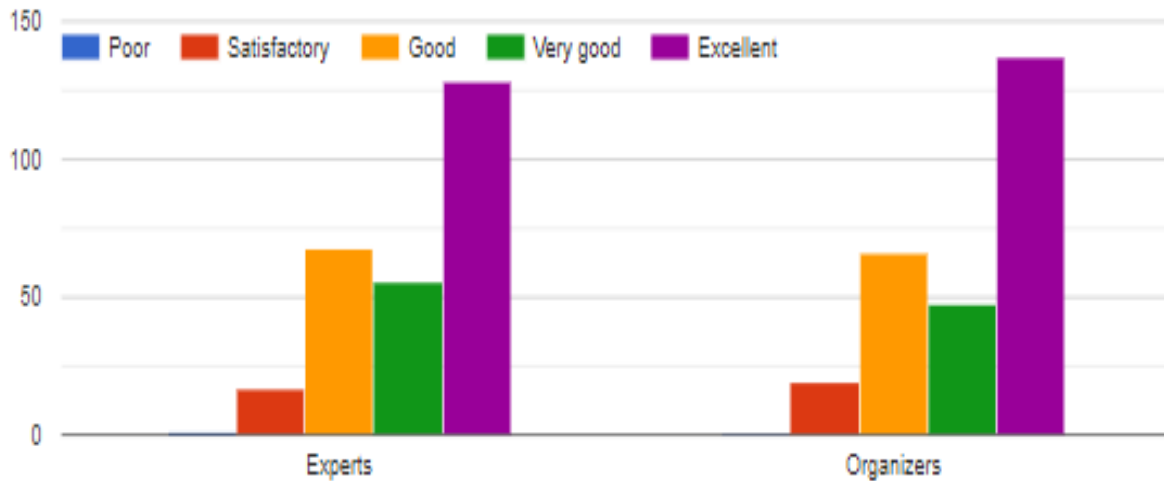
Prof. Dheeraj Joshi  
HOD, ME

Dr. Chandan Kumar  
Coordinator

Dr. Ramesh Kumar Pachar  
Principal

## Feedback report

A feedback of FDP was taken from the participants through a Google form. 270 responses were recorded. Overall the FDP is considered to be of value by the participants. Most of the participants appreciated the efforts put by the organizers and the experts.



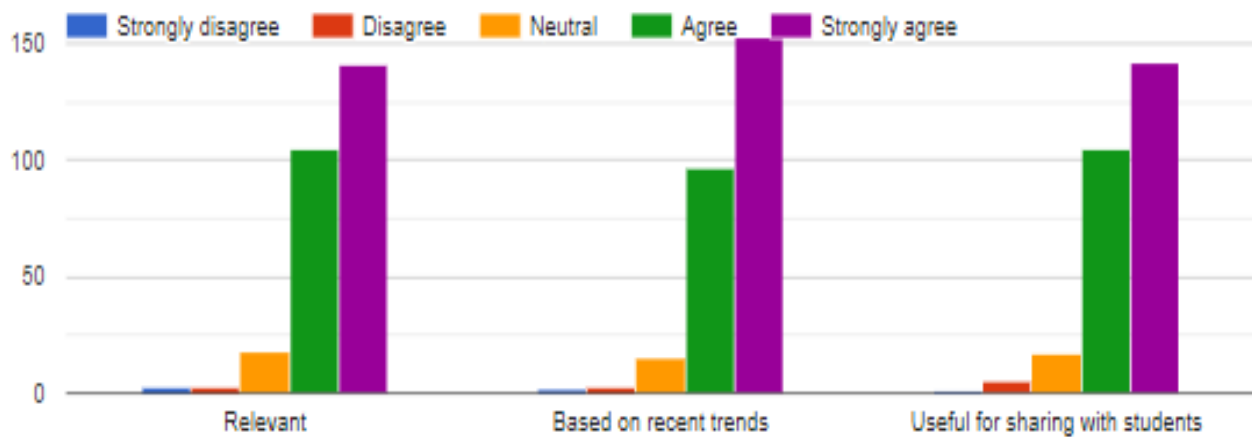
*Figure 1. Level of Efforts*

More than 80% of the participants considered the course to be of value addition. They have actively participated in the sessions.



*Figure 2. Contribution of the course to your knowledge/learning*





*Figure 3. Course content Quality*

In suggestions, many participants has suggested to provide the presentations used during the FDP for further study. More than 200 participants had 80% attendance or more. The session on Hydrogen fuel by Dr. Dilip Sharma from MNIT Jaipur and session on Sustainability by Dr. Sudhakaran from University of Malaysia, Pahang were the most liked sessions by the participants. They got their future research ideas from the different sessions.

The participants have shown their interest to join the such FDPs in future also.

## Media Coverage

# एसकेआईटी में रिन्यूएबल एनर्जी विषय पर पांच दिवसीय फैकल्टी डेवलपमेंट प्रोग्राम का शुभारम्भ

P3 Police Public Politics

जयपुर ! स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी मैनेजमेंट एंड ग्रामोत्थान (एसकेआईटी) रामनगरिया, जगतपुरा, जयपुर में सोमवार, 21, फरवरी 2022 को मैकेनिकल इंजीनियरिंग डिपार्टमेंट के द्वारा ऑनलाइन प्लेटफार्म पर पांच दिवसीय फैकल्टी डेवलपमेंट प्रोग्राम का शुभारम्भ हुआ। जिसका विषय 'स्मार्ट यूज ऑफ रिन्यूएबल एनर्जी रिसोर्सेज फॉर सस्टेनेबल फ्यूचर' था। इस कार्यक्रम के मुख्य अतिथि आई आर एच क्यू, कनाडा के सीनियर रिसर्चर, डॉ एम वी रेड्डी थे। इस अवसर पर मैकेनिकल इंजीनियरिंग, एसकेआईटी के विभागाध्यक्ष, प्रो. धीरज जोशी, ने सभी आगंतुकों का ऑनलाइन प्लेटफार्म पर स्वागत किया और कार्यक्रम के उद्देश्य पर प्रकाश डाला। एसकेआईटी के डायरेक्टर (अकादमिक) प्रो. एस एल सुराणा ने



ग्रीन रिन्यूएबल एनर्जी के विभिन्न स्रोत और उसके स्मार्ट यूज पर प्रकाश डाला। कार्यक्रम के मुख्य अतिथि डॉ एम वी रेड्डी ने सस्टेनेबल यूज ऑफ एनर्जी के बारे में चर्चा की।

कार्यक्रम का समन्वय मैकेनिकल इंजीनियरिंग डिपार्टमेंट के असिस्टेंट प्रोफेसर डॉ चन्दन कुमार, दिनेश शर्मा और एसोसिएट प्रोफेसर अंकित अग्रवाल, ने किया। इसके प्रथम सत्र में डॉ एम वी रेड्डी ने एडवांसेज इन हाई एनर्जी स्टोरेज

मैटेरियल्स फॉर इलेक्ट्रिक व्हीकल्स पर विस्तृत चर्चा की। दूसरे सत्र में डॉ. अनिल कुमार, डीटीयू, दिल्ली ने सौर ऊर्जा का औद्योगिक क्षेत्र में उपयोग एवं सम्भावनाओं पर अपना विशेष व्याख्यान दिया। अंत में डॉ. आशीष नय्यर (प्रोफेसर, मैकेनिकल इंजीनियरिंग) ने धन्यवाद ज्ञापित किया। आगामी चार दिन तक इसमें देश-विदेश के विभिन्न संस्थानों के रिन्यूएबल एनर्जी विशेषज्ञ अपने-अपने विचार व्यक्त करेंगे।

डेवलपमेंट प्रोग्राम का समापन

## रिन्यूएबल एनर्जी विषय पर पांच दिवसीय फैकल्टी



जयपुर। स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी मैनेजमेंट एंड ग्रामीन्स रामनगरिया, जयपुर, जयपुर में शुक्रवार को मैकेनिकल इंजीनियरिंग डिपार्टमेंट के द्वारा ऑनलाइन प्लेटफॉर्म पर आयोजित पांच दिवसीय फैकल्टी डेवलपमेंट प्रोग्राम 'स्मार्ट ग्रुज ऑफ रिन्यूएबल एनर्जी रिसोर्सेज फॉर सस्टेनेबल फ्यूचर' का समापन हुआ। इस फैकल्टी डेवलपमेंट प्रोग्राम में कुल दस सत्र हुए जिसमें देश-विदेश के विभिन्न प्रतिष्ठित संस्थानों के रिन्यूएबल एनर्जी विशेषज्ञों ने अपने-अपने विचार व्यक्त किये। एफडीपी के पांचवें दिन प्रो. धरम बुद्धि, वाईस-चांसलर,

उत्तरांचल यूनिवर्सिटी, देहरादून ने थर्मल एनर्जी स्टोरेज और एफडीपी समापन समारोह के मुख्य अतिथि डॉ. के सुधाकरन, यूनिवर्सिटी ऑफ मलेशिया, पहांग ने एनर्जी ट्रांजिशन एंड सस्टेनेबिलिटी: दी न्यू एरा ऑफ मैनेजमेंट पर व्याख्यान दिया।

एफडीपी समापन समारोह में एफडीपी कोऑर्डिनेटर दिनेश शर्मा ने एफडीपी की रिपोर्ट प्रस्तुत की। अंत में एफडीपी कोऑर्डिनेटर डॉ. चन्दन कुमार ने धन्यवाद ज्ञापित किया। समापन समारोह में प्रो. धीरज जोशी (विभागाध्यक्ष, मैकेनिकल इंजीनियरिंग), प्रो. आशीष नय्यर, और अंकित अग्रवाल उपस्थित थे।

## Day Wise detailed report

Renewable energy and sustainable development are the key technologies to offer solutions to the ever-increasing environmental pollutions and depleting conventional fuel reserves. With an aim to discuss the state of art technologies pertaining to the renewable energy domain, a one-week faculty development programme on “Smart use of Renewable Energy Resources for Sustainable Future” was organized by Department of Mechanical Engineering, Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur from February 21 to 25, 2022.

First day of the FDP started with the Inaugural session which was graced by the presence the Chief Guest Dr. M V Reddy, Senior Researcher, Institute of Research Hydro-Quebec, Canada, Prof. (Dr.) S.L. Surana, Director (Academemics), SKIT, Prof. Dheeraj Joshi, HoD, Department of Mechanical Engineering, SKIT and Prof. Ashish Nayyar (Professor, ME). Prof. Dheeraj Joshi welcomed the Chief Guest, dignitaries and all the participants. Prof. Joshi discussed the need of such FDPs as a very important development activity for upliftment of Faculty. He thanked the entire team of FDP for choosing such a relevant topic of general interest addressing the solutions to energy crisis currently being faced by the world. Prof. S. L. Surana discussed about the role of green and renewable energy for sustainable development. Dr. MV Reddy, Chief Guest addressed the gathering. Dr Reddy highlighted the sustainable use of energy. Prof. Ashish Nayyar proposed formal vote of thanks.

Dr MV Reddy addressed the gathering in the First session of Day 1. Dr. Reddy presented advances in high energy storage materials for electric vehicles. He discussed about the various aspects of battery operated electric vehicles. Dr. Anil Kumar, Delhi Technological University presented his expert talk during second session on Prospectus of Solar Energy Applications in Industry covering literally all aspects of solar energy whether it is solar thermal, solar PV, solar air heater, solar desalination, etc.

Second Day First Session started with the talk Dr Brajesh Tripathi, Rajasthan Technical University, Kota. Dr Tripathi shared his research experience on use of computational fluid dynamics for analysis of Wind Mill. In second session of the day, Principal Scientist MP council of Science and Technology Mr. Vikas Shende discussed various research schemes of department of science and technology, New Delhi and Rajasthan for the benefits of the researcher and faculty of engineering institutions.

Prof. Dilip Sharma, Professor (HAG), Malaviya National Institute of Technology, Jaipur interestingly shared use of Hydrogen as a fuel for IC engines during First session of Day 3. Prof. Sharma covered literally all aspects of using Hydrogen whether it is fuel cell, hydrogen production and storage, safety standards, NHEB, Hydrogen CNG mix, etc. In the second session of the day, Shriman Girdhari Das Ji Akshay Patra Foundation Jaipur enlighten us with the very informative talk on the science and spirituality. He discussed the Vaidic knowledge is the basis of the many of the scientific concepts and theories.

On First session Day 4, Prof. Deepak Sharma talked about the sustainability practices in our day-to-day life using renewable energy resources. Prof. Sharma very interestingly highlighted the use of solar chulha, solar water heater, solar PV and use many other renewable energy resources towards sustainable development. In Second session of the day, Dr Kunj Bihari Rana, Rajasthan Technical University, Kota presented his research experience on Performance of Wind Mill. He discussed the potential and benefits of Vertical Axis Wind Turbine.

Day 5 Session 1 witnessed the presence of Well-known Researcher in the field of Thermal energy storage Prof. Dharam Buddhi, Vice Chancellor, Uttranchal University, Dehradun. Prof. Budhi highlighted the importance of thermal energy storage looking at the ever increasing energy demands. He also discussed the various aspects of thermal energy storage design. During second session of the day, Dr K. Sudhakaran Univeristi of Malaysia, Pahang addressed the gathering with his highly informative talk on the energy transition and sustainability: A new era of mankind. Dr. Sudhakaran very interesting discussed every aspect of using renewable energy resources in such as way where existing use of land is not compromised. Dr. Sudhakaran showed various practices followed worldwide for sustainability such as Floating solar panels, Hydrogen production and storage,

At the end, on behalf of whole organizing team, I would like to express my sincere gratitude to all of our experts for accepting our invitation and delivering the talks covering literally all aspects of smart use of renewable energy resources for sustainable future and made this event meaningful for our participants, I suppose. I would like to thank the participants for overwhelming response on our request to participate in this FDP in form of over 300 registrations from all corners of the country. From this platform I would like to extend my sincere thanks for having more than 100 participants in all session live, I feel they have been benefitted with the knowledge sharing by our invited talks during various expert sessions of



this FDP. Thanks for being with us. This was a very joyful and satisfying experience on our efforts made. This gives us as a fuel for our future projects. You can forward us your suggestions in the feedback form also you can write to us for any improvements.

## Objectives and Outcomes

After attending this FDP, an attendee will be able to:

Highlight the role of renewable energy resources for a sustainable future.

Analyze the design and performance of renewable energy systems.

Get acquainted with the recent advancements in the field of renewable energy.

Analyze the smart use of renewable energy resources for sustainable development.

Aware about initiatives taken by government bodies to support renewable energy sector.

## Utilization report

### Swami Keshvanand Institute of Technology, Management and Gramothan Department of Mechanical Engineering

#### Note

Date: 11.03.2022

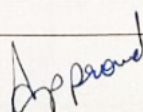
Subject: Honorarium for Session Speakers in the one week FDP on Smart use of Renewable Energy Resources for Sustainable Future

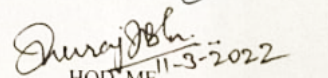
A one-week faculty development programme on "Smart use of Renewable Energy Resources for Sustainable Future" was organized by Department of Mechanical Engineering, from February 21 to 25, 2022.

You are requested to kindly pay the honorarium as mentioned below.

S. No.	Name of Speaker	Bank Details	Session Date & Time	Amount
1	Venkatashamy Reddy M	Account no. - 068310101665 IFSC - CNRB0000683 Bank & Branch - Canara Bank, IISC Campus, Bangalore PAN No.: AUUPV9583D	Date: 21.02.2022 Time: 09.30 AM	3000/-
2	Dr. Anil Kumar	Account no. - 10625461594 IFSC - SBIN0010446 Bank & Branch - SBI, MANIT, Bhopal PAN No.: AQEPK5810A	Date: 21.02.2022 Time: 11.30 AM	3000/-
3	Brajesh Tripathi	Account no. - 6660000400000758 IFSC - PUNB0666000 Bank & Branch - PNB, Gautam Buddha Univ., Greater Noida PAN No.: AHLPT2891A	Date: 22.02.2022 Time: 09.30 AM	3000/-
4	Vikas Shende	Account no. - 20031400550 IFSC - SBIN0010468 Bank & Branch - SBI, Nehru Nagar, Bhopal PAN No.: CFRPS6626A	Date: 22.02.2022 Time: 11.30 AM	3000/-
5	Dilip Sharma	Account no. - 676801116690 IFSC - ICIC0006768 Bank & Branch - ICICI Bank, M R E C, Jaipur PAN No.: AJSPS2017G	Date: 23.02.2022 Time: 09.30 AM	3000/-
6	Deepak Sharma	Account no. - 694201018571 IFSC - ICIC0006942 Bank & Branch - ICICI Bank, University Campus, Udaipur PAN No.: ADSPS9099J	Date: 24.02.2022 Time: 11.30 AM	3000/-
7	Kunj Bihari Rana	Account no. - 6009000400000276 IFSC - PUNB0600900 Bank & Branch - PNB, RTU Campus, Kota PAN No.: BOSPR5009H	Date: 24.02.2022 Time: 09.30 AM	3000/-
8	Dharam Buddhi	Account no. - 14500100012890 IFSC - FDRL0001450 Bank & Branch - Federal Bank, Dehradun PAN No.: AMHPB8766D	Date: 25.02.2022 Time: 11.30 AM	3000/-
9	K. Sudhakar	Account no. - 30530963500 IFSC - SBIN0001608 Bank & Branch - SBI, MANIT, Bhopal PAN No.: BURPS2114R	Date: 25.02.2022 Time: 09.30 AM	3000/-
Total				27,000/-

  
Dr. Chandan Kumar  
Event Coordinator

  
11/3/2022

  
HOD, ME  
Prof. Dhruv Joshi

Director/Registrar