REPORT

AICTE sponsored 6 day online
ATAL Faculty Development Program on

EMERGING GREEN HYDROGEN ENERGY TECHNOLOGIES FOR SOCIETAL SUSTAINABILITY AND CLIMATE CHANGE MITIGATION

AICTETRAININGANDLEARNINGACADEMY, PUNE

Date: 16-12-2024 to 21-12-2024,
Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh

AICTE sponsored 6 day online ATAL Faculty Development Program on

EMERGING GREEN HYDROGEN ENERGY TECHNOLOGIES FOR SOCIETAL SUSTAINABILITY AND CLIMATE CHANGE MITIGATION

INAUGURAL

Department of Mechanical Engineering, Lakireddy Bali Reddy College of Engineering (A), Mylavaram Organized a 6 day online ATAL FDP program sponsored by AICTE on "EMERGING GREEN HYDROGEN ENERGY TECHNOLOGIES FOR SOCIETAL SUSTAINABILITY AND CLIMATE CHANGE MITIGATION".

Inaugural function of this 6-day online ATAL FDP program held on 16-12-2024 Monday evening@6pm with **Dr. Anand M Shivapuji, Senior Research Scientist Centre for Sustainable Technologies, Indian Institute of Science Bengaluru** attended as chief guest and Dr.K.Appa Rao Principal Lakireddy Balireddy College of Engineering(A), Mylavaram as the Guest of Honor.

Addressing the gathering, Dr. Anand M Shivapuji, emphasized that in navigating India's economic growth, the discourse on "Emerging Green hydrogen energy technologies for societal sustainability and climate change mitigation" holds immense significance. This dialogue underscores the need for a transformative approach to sustainable energy solutions, recognizing the critical synergy between economic development and environmental preservation. Embracing renewable energy systems and advanced green hydrogen energy storage generation technologies is not just an ecological necessity but also a strategic pathway to achieving energy independence and economic resilience along with assisting the societal sustainability and mitigating climate change.

This inaugural discussion highlights a commitment to fostering innovation, collaboration, and sustainable energy practices. It reflects a vision of a future where India's prosperity is intertwined with cutting-edge green technologies, ensuring long-term ecological balance and a robust energy framework.

Dr.Bale.V.Reddy
Professor,
University of Ontario, Canada

Dr. Anand M Shivapuji,
Senior Research Scientist,
IISc Bangalore

Dr.A.Ramesh,
Professor,
IIT M, Chennai

Dr.E.Anil Kumar,
Professor,
IIT Tirupati

Dr. T.Srinivas
Professor &HoD Mechanical,
NIT Jalandhar

Dr.D.Jayakrishna,
Professor,
NIT, Warangal

Dr.G.Prasada Rao,
Executive Engineer,
Dr.NTTPS, Vijayawada

Dr.M.Sankara Rao
Director,
Nanosol Energy Pvt Ltd,
Telangana

Mr. V.Sethu Ram,
Lead Engineer,
Global Quest, Bangalore

Mr.N.Vinod Kumar,
Director,
JesvidCryopvt ltd. Amaravathi

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Schedule of FDP

Day-1 16-12-2024	**6:00PM to 6:30 PM**	**6:30PM to 8:00 PM**	**8:00PM to 9:30 PM**	
	-	**Session-1**	**Session-2**	
	Inauguration	Green hydrogen from bioresource – pathway, potential and challenges **Dr. Anand M Shivapuji**	Hydrogen fuelled internal combustion engines for stationary applications **Dr.A.Ramesh**	
Day-2 17-12-2024	**6:00PM to 7:30 PM**	**7:30PM to 9:00 PM**		
	Session-3	**Session-4**		
	Hydrogen generation using solar energy **Dr.D.Jayakrishna**	Green hydrogen production and its future in the context of increased climate change **Dr.M.Sankara Rao**		
Day-3 18-12-2024	**6:00PM to 7:30 PM**	**7:30PM to 9:00 PM**		
	Session-5	**Session-6**		
	Hydrogen and energy storage for sustainable energy systems **Dr.E.Anil Kumar**	Adoption of green hydrogen technology for hydrogen generation in thermal power plants: benefits and challenges **Dr.G.Prasada Rao**		
Day-4 19-12-2024	**6:00PM to 7:30 PM**	**7:30PM to 9:00 PM**		
	Session-7	**Session-8**		
	Hydrogen energy generation **Mr.N.Vinod Kumar**	Representative concentration pathway analysis to understand climate change and role of hydrogen **Dr. Anand M Shivapuji**		
Day-5 20-12-2024	**6:00PM to 7:30 PM**	**7:30PM to 9:00 PM**		
	Session-9	**Session-10**		
	Solid state hydrogen storage for sustainable energy conversion and storage **Dr.E.Anil Kumar**	Hydrogen production and its impact on climate change **Mr. V.Sethu Ram**		
Day-6 21-12-2024	**2:00PM to 3:30 PM**	**3:30PM to 5:00 PM**	**5:00PM to 6:30 PM**	**6:30PM to 8:30 PM**
	Session-11	**Session-12**	**Session-13**	**-**
	Hydrogen energy applications in Thermal Polygeneration **Dr. T.Srinivas**	Sustainable Development: Role of second law of Thermodynamics **Dr.Bale.V.Reddy**	Advances and developments in hydrogen energy technologies **Dr.Bale.V.Reddy**	Valedictory Session followed by Online test

Along with Dr.Anand M Shivapuji, Senior Research Scientist, Dr.Bale V Reddy Professor Ontario Tech University Oshawa, Canada,Dr. A.Ramesh, Professor IIT Madras, Dr.E. Anil Kumar, Professor, IIT Tirupati, Dr. T.SrinivasProfessor&Head NIT Jalandhar, Dr.D.Jayakrishna, Professor NIT Warangal, Dr.M.Sankararao, Director Nanosol Energy P Ltd, Mr.G.Prasada Rao Asst Executive Engineer, Dr.Narla Tatarao Thermal Power Station, Ibrahimpatnam Vijayawada, Mr.V.Sethuram, Team Lead Global Quest Bengaluru, Mr.N.Vinod Kumar Director JesvidCryo P Ltd Mangalagiriare also invited to deliver lectures on this 6-day online FDP program.

About 227 faculty participants from Academia, industry and research scholars from various colleges across India participated in this event.Dr.P.Vijaya Kumar, Coordinator; Dr. V.Dhana Raju,Co-Coordinator, Dr.M.B.S.S.Reddy, HoD and Convener and Department faculty members are participated in this event.

Press Release:

సాక్షి

గ్రీన్ హైడ్రోజన్ వాడకంపై పరిశోధనలు జరగాలి

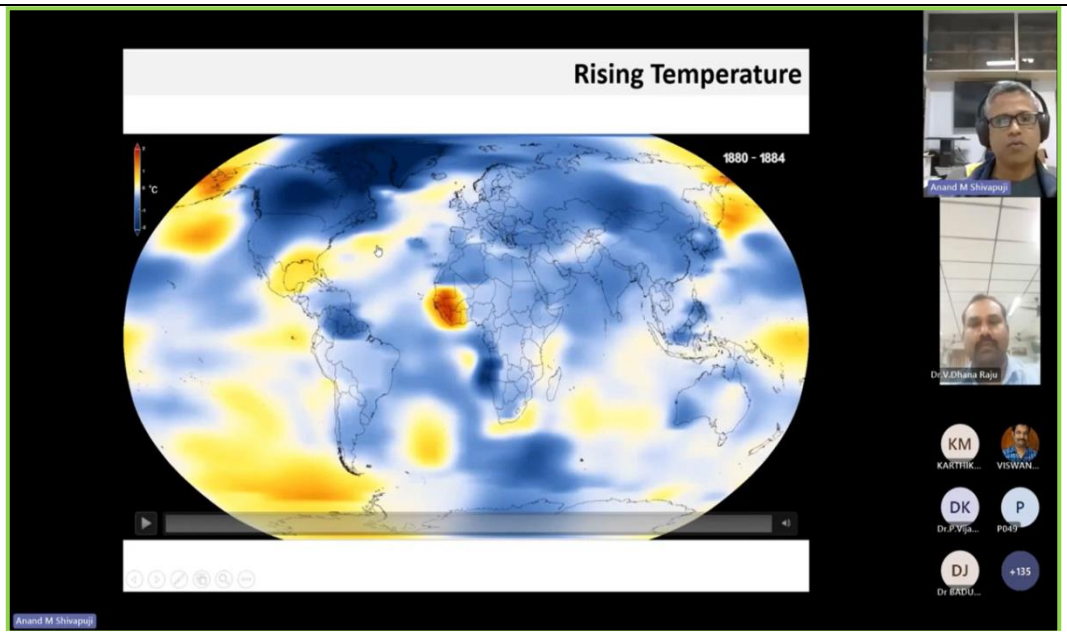
మైలవరం: గ్రీన్ హైడ్రోజన్ వాడుక, ట్రాన్స్‌పోర్టేషన్, ఇండస్ట్రీస్, డొమెస్టిక్ రంగాల్లో ఊపందుకునే దిశగా ప్రపంచ వ్యాప్తంగా పరిశోధనలు జరగాలని కెనడా ఒంటారియోటెక్ యూనివర్సిటీ ప్రొఫెసర్ డాక్టర్ బాలే ఏ రెడ్డి తెలిపారు. మైలవరం లకిరెడ్డి బాలిరెడ్డి ఇంజినీరింగ్ కళాశాలలో నిర్వహిస్తున్న ఏఐసీటీఐ స్పాన్సర్డ్ ఫ్యాకల్టీ డెవలప్‌మెంట్ ప్రోగ్రామ్ ఎమర్జింగ్ గ్రీన్ హైడ్రోజన్ ఎనర్జీ టెక్నాలజీస్ ఫర్ సొసైటల్ సస్టెయినబిలిటీ అండ్ క్లెమేట్ చేంజ్ మిటిగేషన్ ఏఐ అంశంపై కార్యక్రమం సోమవారం ముగిసింది. ముగింపు కార్యక్రమంలో ప్రొఫెసర్ బాలే వి. రెడ్డి మాట్లాడుతూ సమీప భవిష్యత్తులో గ్రీన్ హైడ్రోజన్ వాడుక ట్రాన్స్‌పోర్టేషన్, ఇండస్ట్రీస్ తదితర రంగాలలో ఎంతో ఆవశ్యకత ఉందని, వీటిపై అవగాహన పెంచుకోవాలన్నారు. ఐఐఎస్‌సీ బెంగళూరుకి చెందిన డాక్టర్ ఎం. శివ పూజి, మద్రాస్ ఐఐటీకి చెందిన ప్రొఫెసర్ డాక్టర్ ఏ. రమేష్, కళాశాల ప్రిన్సిపాల్ డాక్టర్ కే. అప్పారావు ప్రసంగించారు.

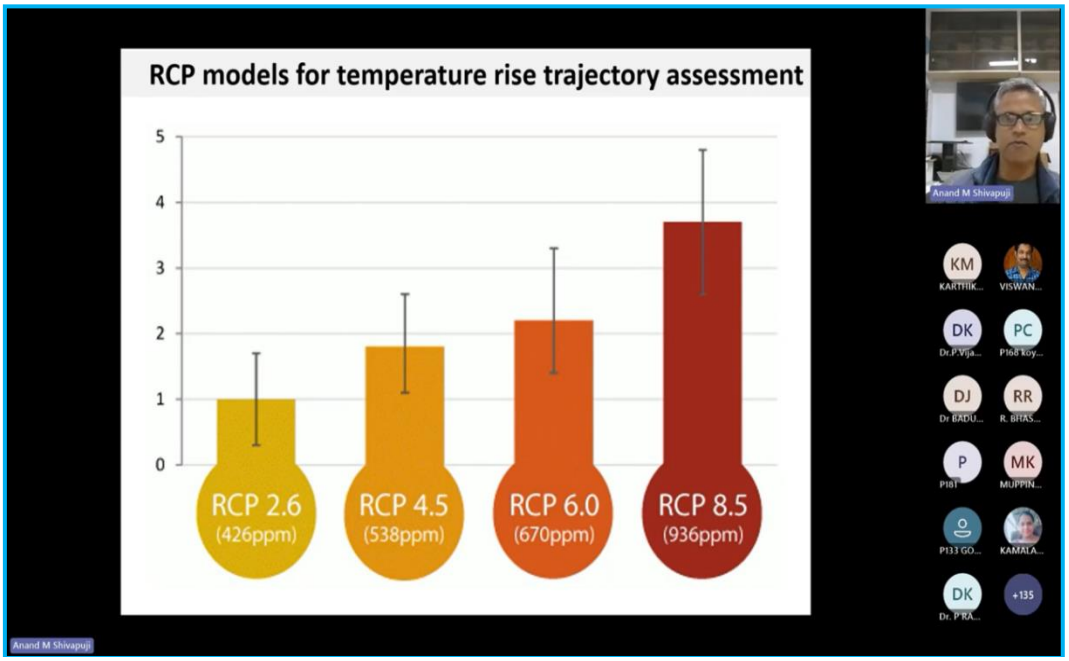
31/12/2024 | NTR(Tiruvuru) | Page : 9
Source : https://epaper.sakshi.com/

LECTURE SESSIONS

Day-1: 16.12.2024 (Monday), 6:30 PM -8:00 PM (Session 1)

Topic: Green hydrogen from bioresource – pathway, potential and challenges
Speaker:
Dr. Anand M Shivapuji, Senior Research Scientist, Center for Sustainable Technologies, IISc, Bengaluru.

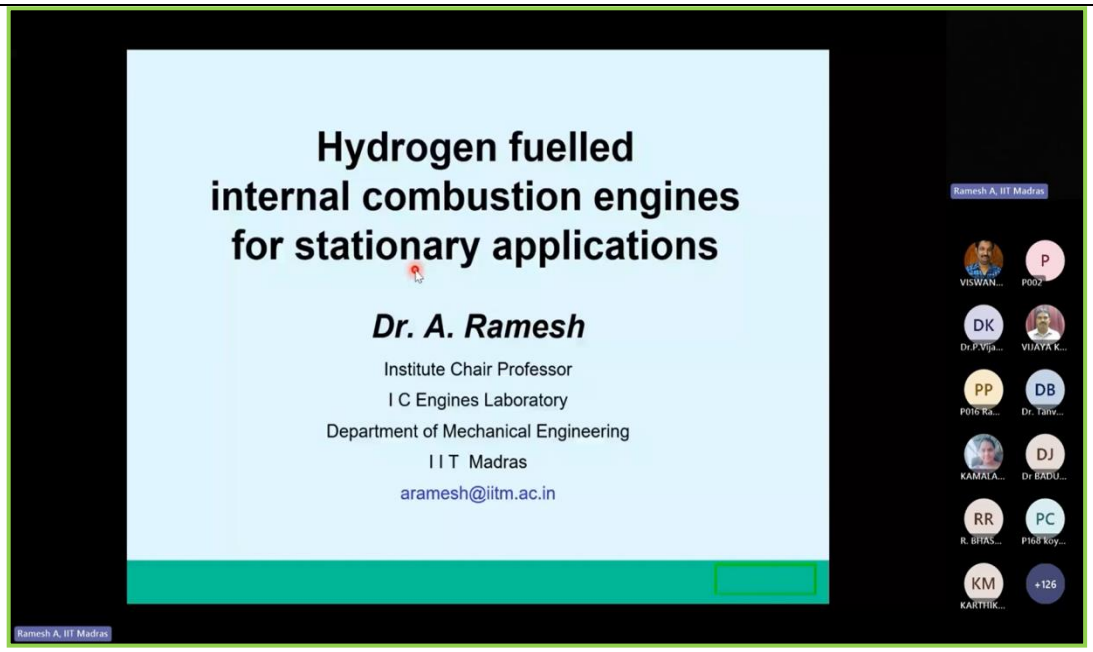


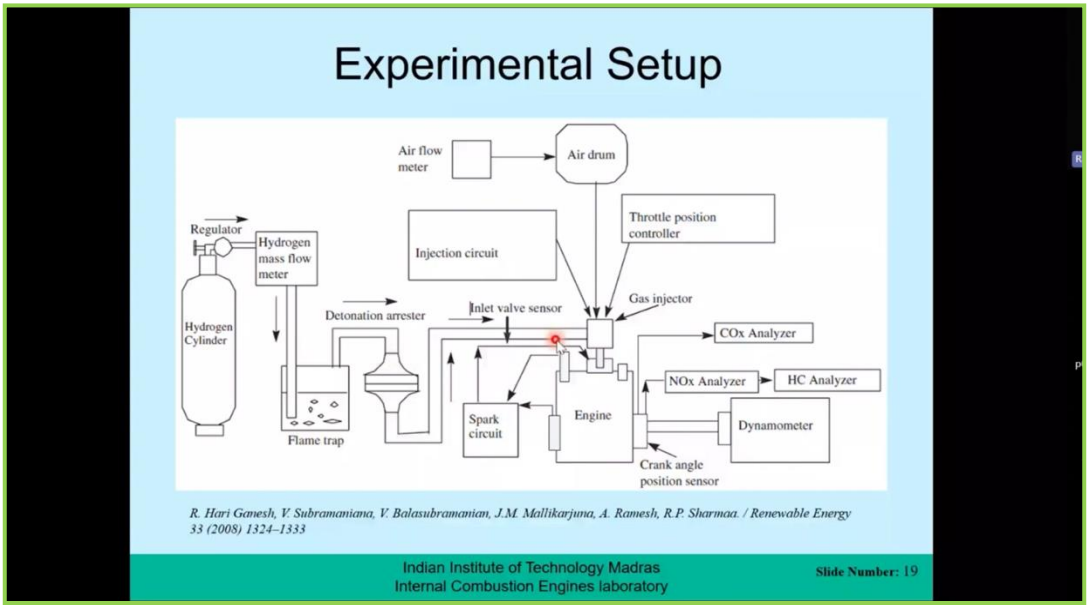


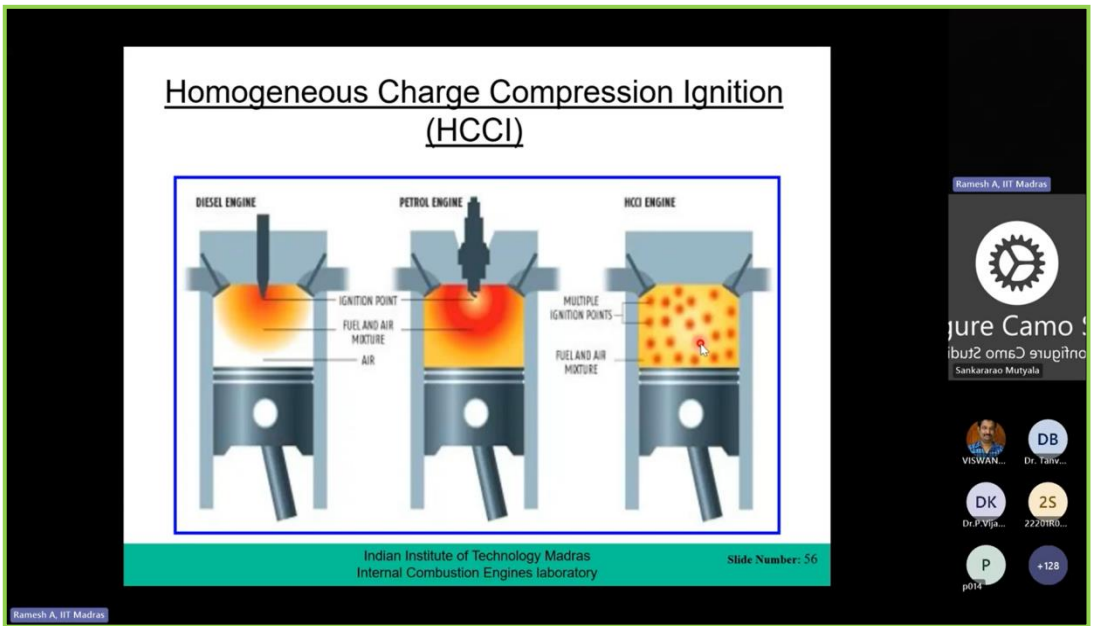
Day-1. 16.12.2024 (Monday), 8.00PM - 09:30 PM (Session 2)

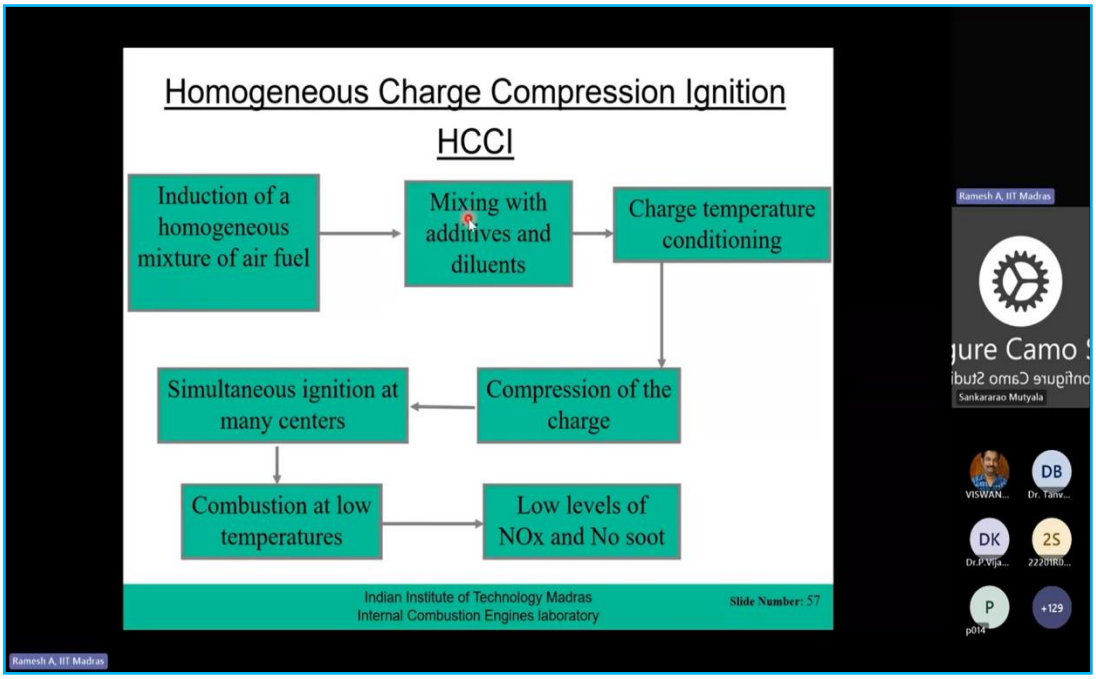
Topic: Hydrogen fuelled internal combustion engines for stationary applications

Speaker:
Dr.A.Ramesh
Professor
Department of Mechanical Engineering
IIT Madras
Chennai, Tamilnadu.


Hydrogen fuelled internal combustion engines for stationary applications
Dr. A. Ramesh
Institute Chair Professor
I C Engines Laboratory
Department of Mechanical Engineering
I I T Madras
aramesh@iitm.ac.in
Ramesh A, IIT Madras


Experimental Setup
Air flow meter
Air drum
Throttle position controller
Injection circuit
Regulator
Hydrogen mass flow meter
Hydrogen Cylinder
Detonation arrester
Inlet valve sensor
Gas injector
COx Analyzer
NOx Analyzer
HC Analyzer
Flame trap
Spark circuit
Engine
Dynamometer
Crank angle position sensor
R. Hari Ganesh, V. Subramaniana, V. Balasubramanian, J.M. Mallikarjuna, A. Ramesh, R.P. Sharmaa. / Renewable Energy 33 (2008) 1324–1333
Indian Institute of Technology Madras
Internal Combustion Engines laboratory
Slide Number: 19

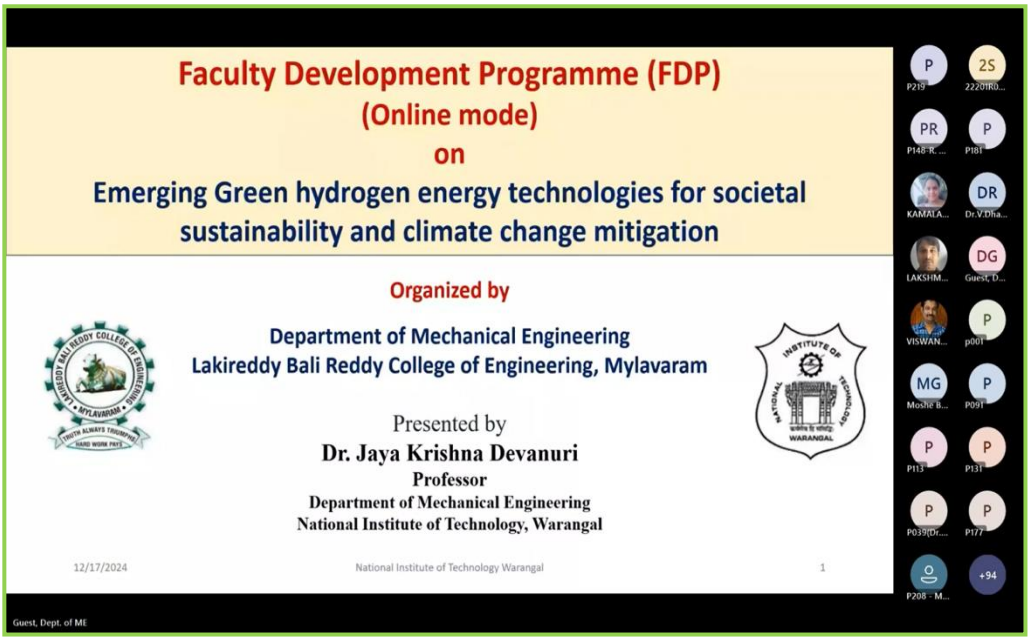

Homogeneous Charge Compression Ignition (HCCI)
DIESEL ENGINE
PETROL ENGINE
HCCI ENGINE
IGNITION POINT
FUEL AND AIR MIXTURE
AIR
MULTIPLE IGNITION POINTS
FUEL AND AIR MIXTURE
Indian Institute of Technology Madras
Internal Combustion Engines laboratory
Slide Number: 56
Ramesh A, IIT Madras

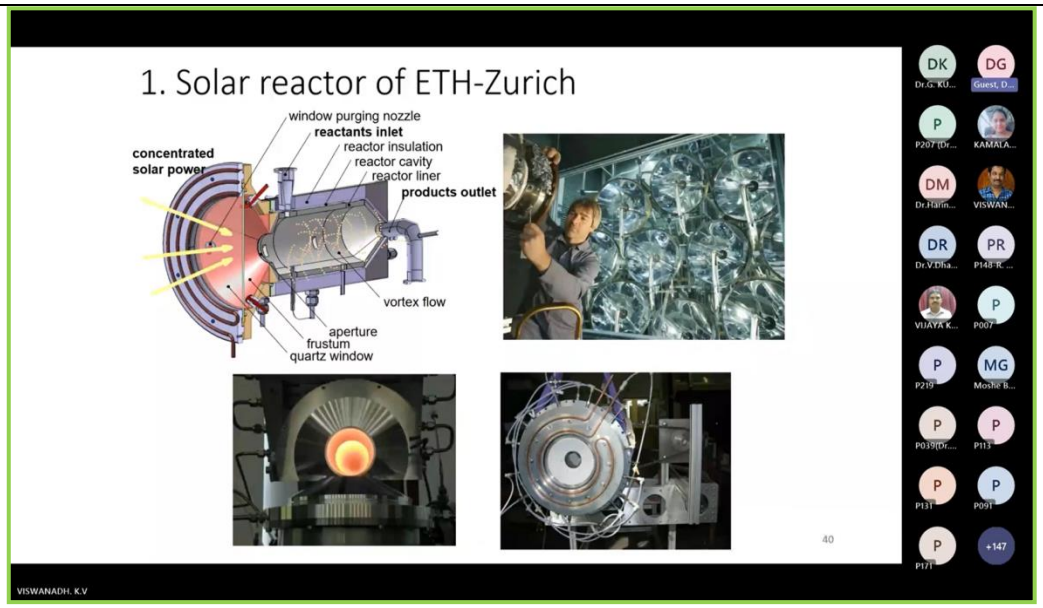


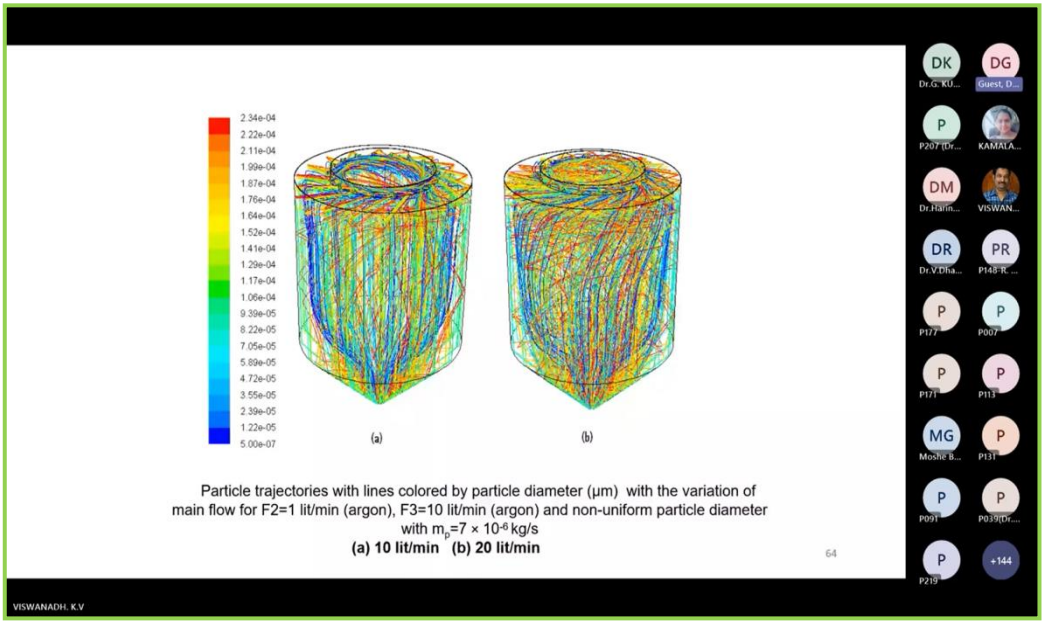
Day-2: (17.12.2024) Tuesday 6:00 PM -7:30 PM Session 3

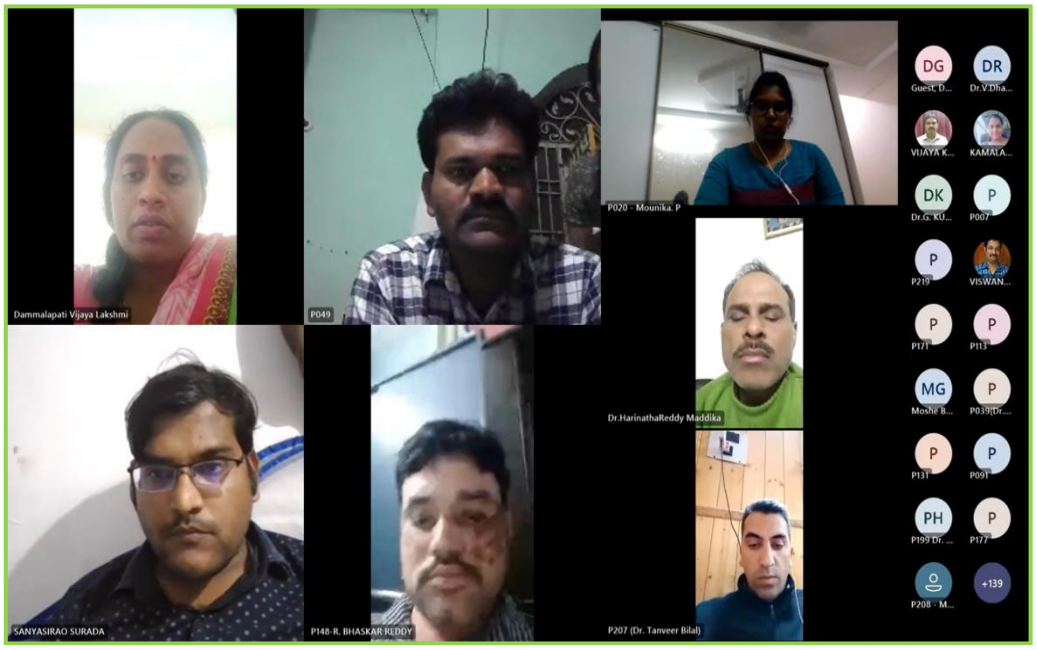
Topic: Hydrogen generation using solar energy

Speaker:
Dr. D.Jayakrishna
Professor
Department of Mechanical Engineering
National Institute of Technology Warangal
Warangal, Telangana.




1. Solar reactor of ETH-Zurich
window purging nozzle
reactants inlet
reactor insulation
reactor cavity
reactor liner
products outlet
concentrated solar power
vortex flow
aperture
frustum
quartz window
40
VISWANADH. K.V

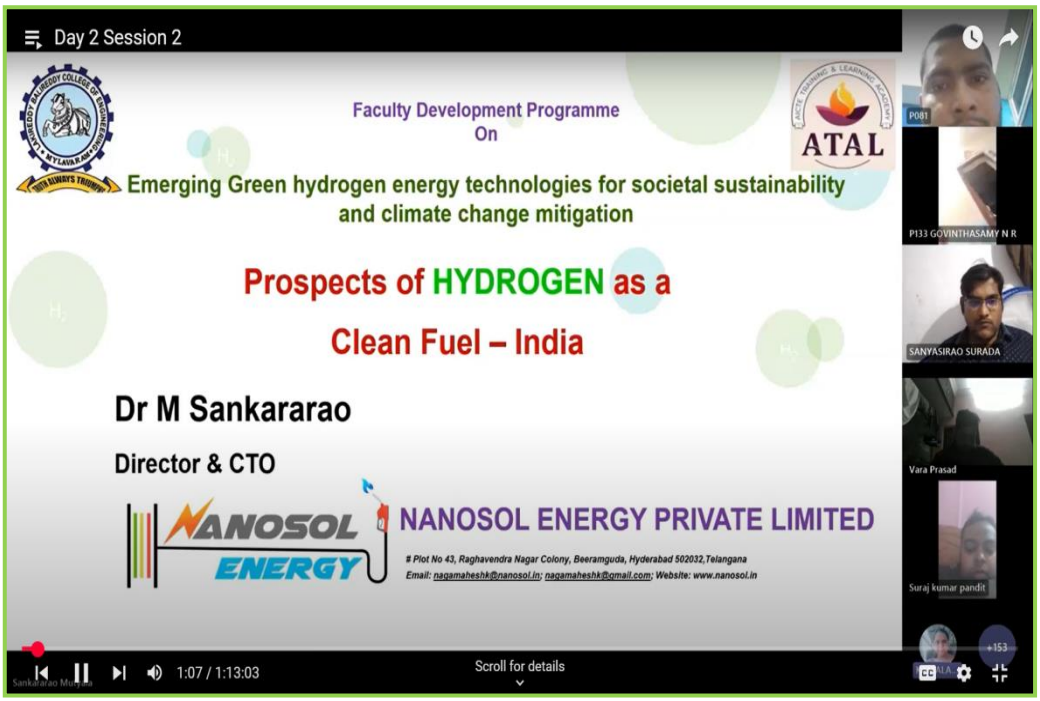

2.34e-04
2.22e-04
2.11e-04
1.99e-04
1.87e-04
1.76e-04
1.64e-04
1.52e-04
1.41e-04
1.29e-04
1.17e-04
1.06e-04
9.39e-05
8.22e-05
7.05e-05
5.89e-05
4.72e-05
3.55e-05
2.39e-05
1.22e-05
5.00e-07
(a)
(b)
Particle trajectories with lines colored by particle diameter (μm) with the variation of main flow for F2=1 lit/min (argon), F3=10 lit/min (argon) and non-uniform particle diameter with $m_p=7 \times 10^{-6}$ kg/s
(a) 10 lit/min (b) 20 lit/min
64
VISWANADH. K.V

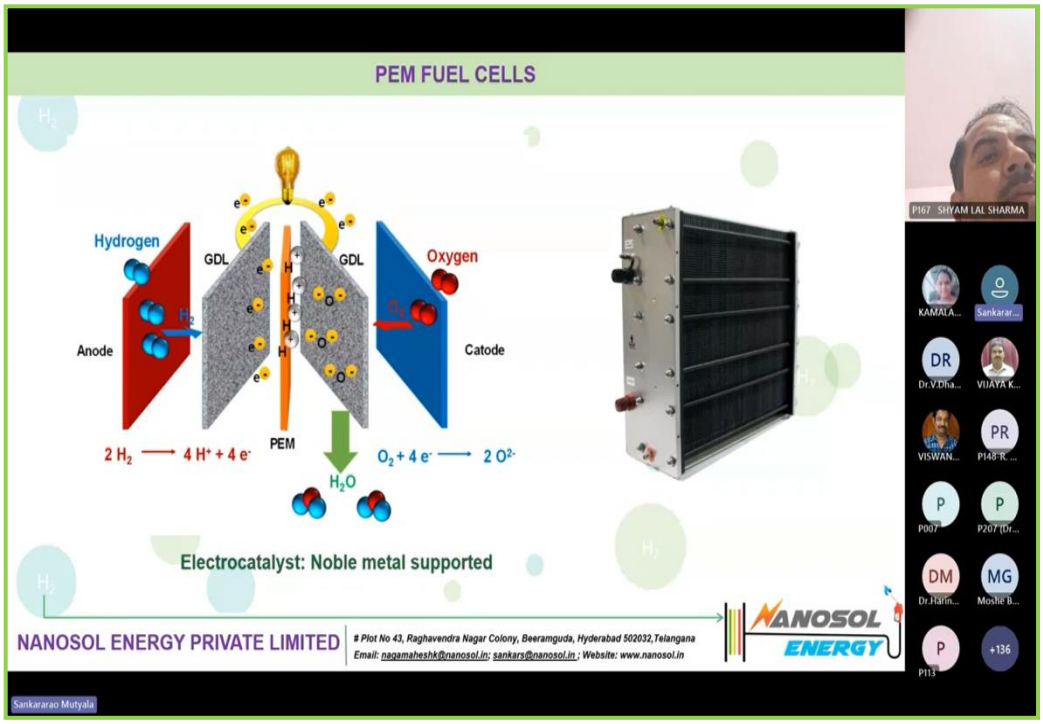

Dammalapati Vijaya Lakshmi
P049
P020 - Mounika. P
Dr.HarinathaReddy Maddika
SANYASIRAO SURADA
P148-R. BHASKAR REDDY
P207 (Dr. Tanveer Bilal)

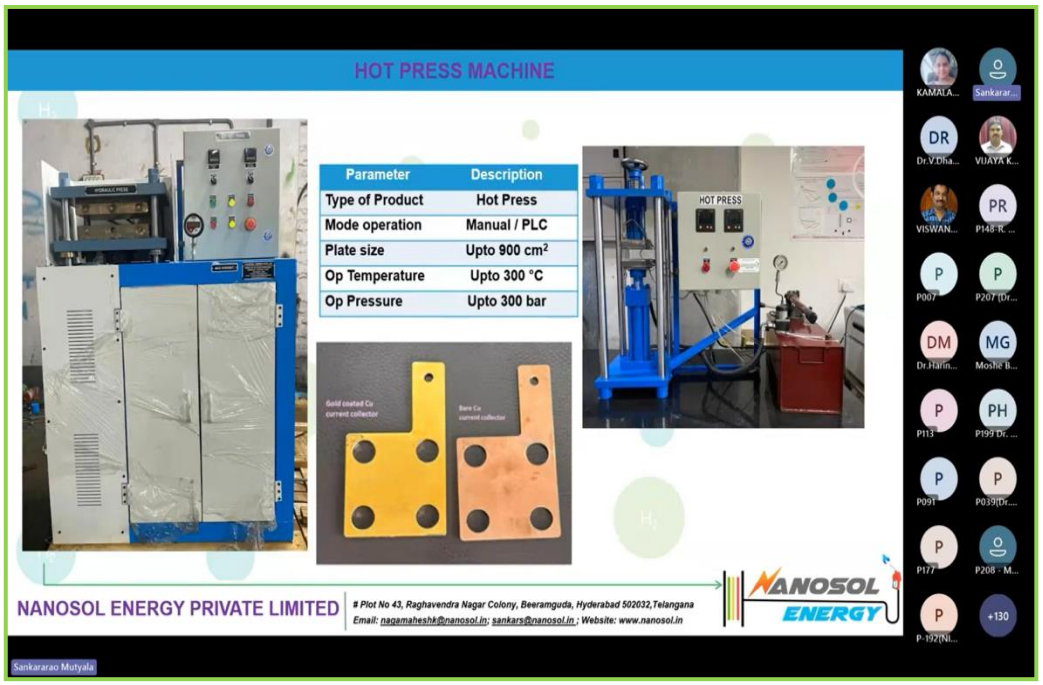
Day-2: (17.12.2024) Tuesday 7.30PM -9:00 PM Session 4

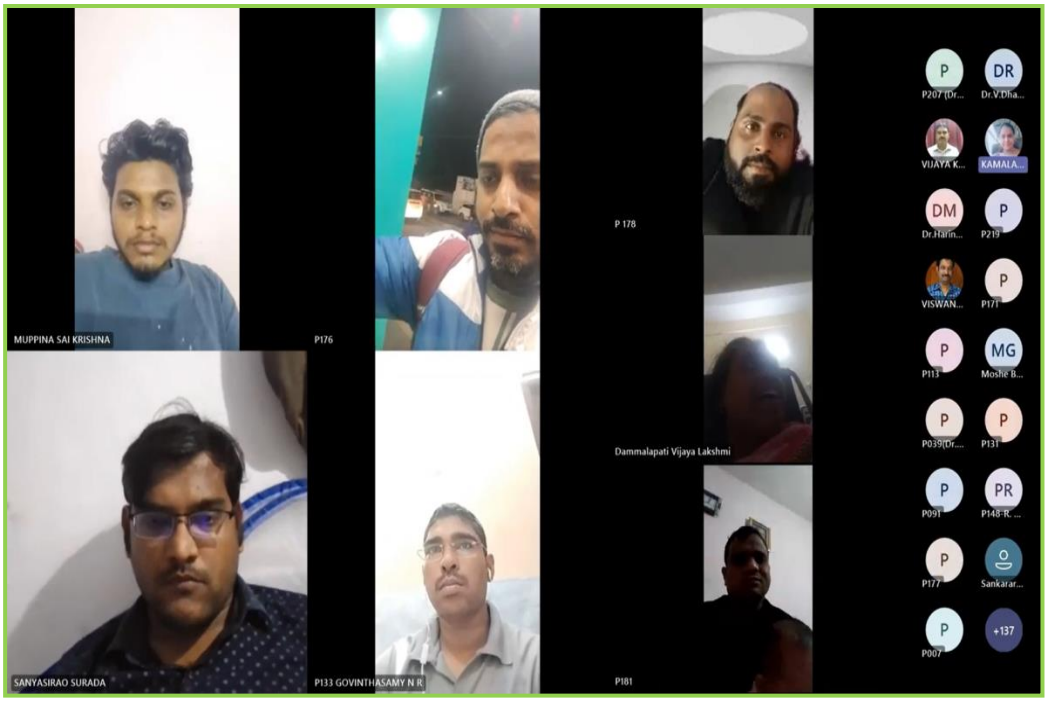
Topic: Green hydrogen production and its future in the context of increased climate change

Speaker:
Dr. M.Sankararao
Director
Nanosol Energy P Ltd
Hyderabad, Telangana





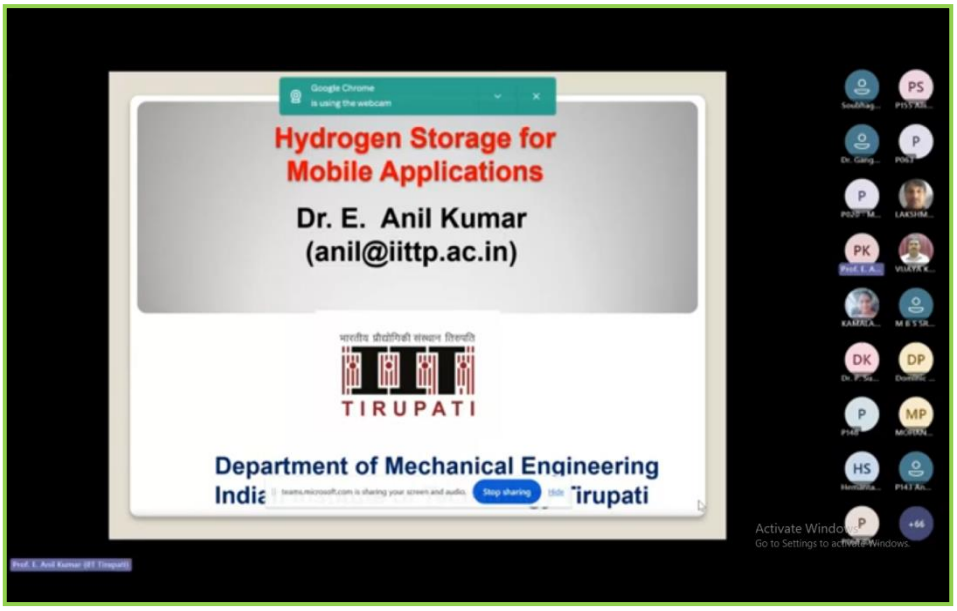


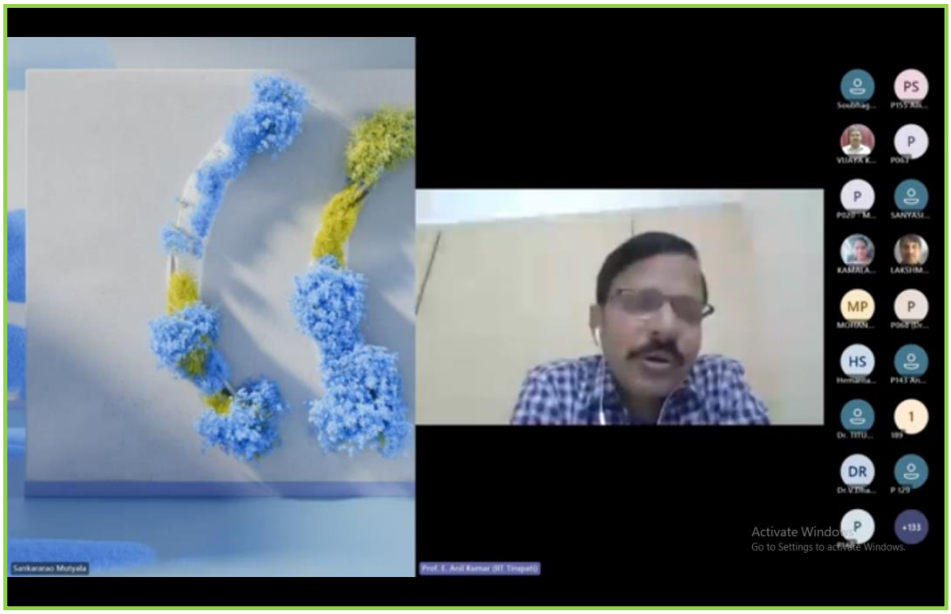


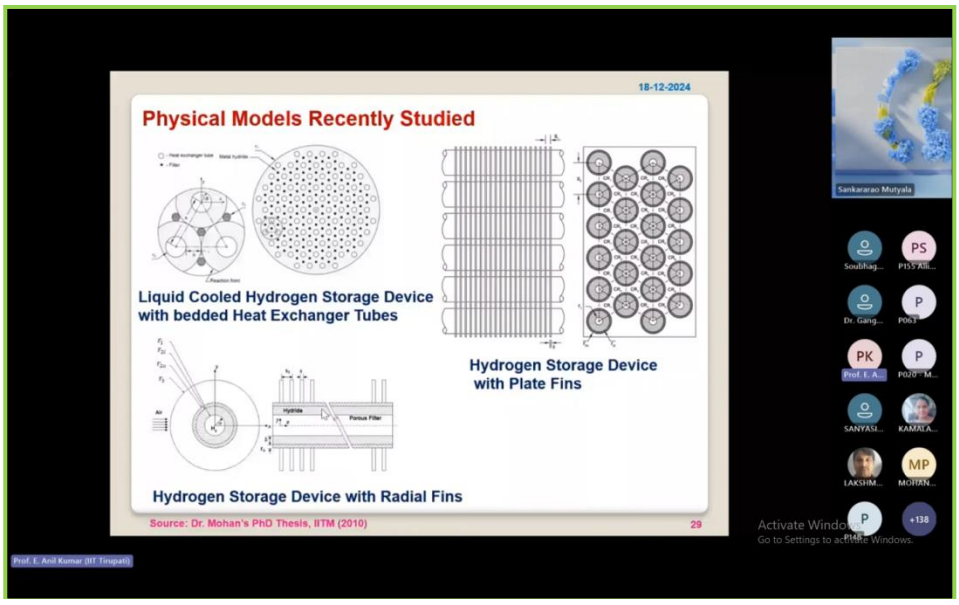
Day-3: (18.12.2024) Wednesday 6:00 PM -7:30 PM Session 5

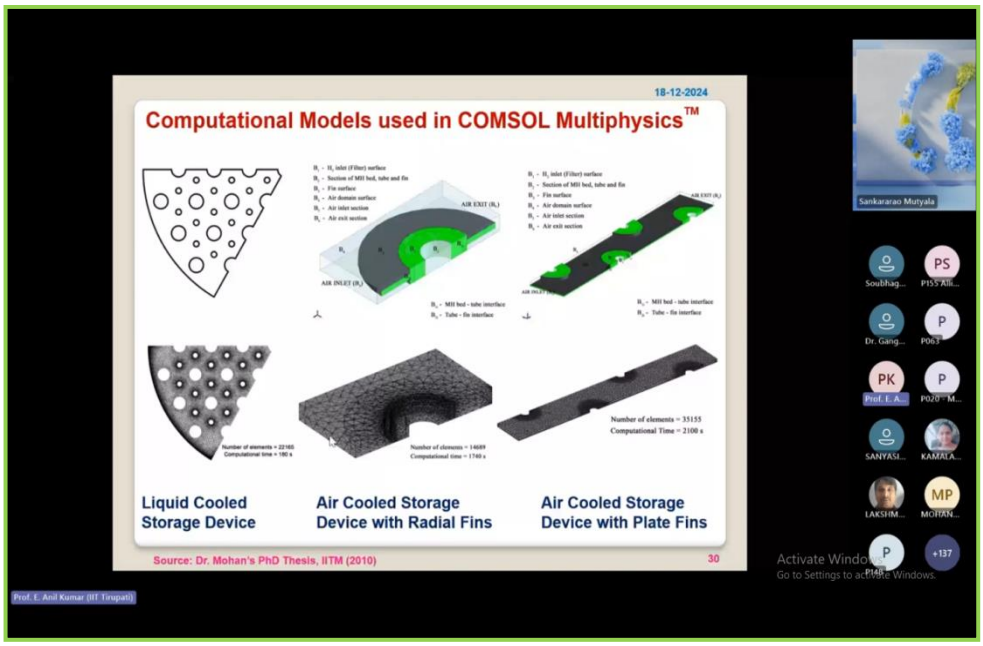
Topic: Hydrogen and energy storage for sustainable energy systems

Speaker:
Dr. E.Anil Kumar
Professor
Department of Mechanical Engineering
Indian Institute of Technology- Tirupati


Hydrogen Storage for Mobile Applications
Dr. E. Anil Kumar
(anil@iittp.ac.in)
TIRUPATI
Department of Mechanical Engineering



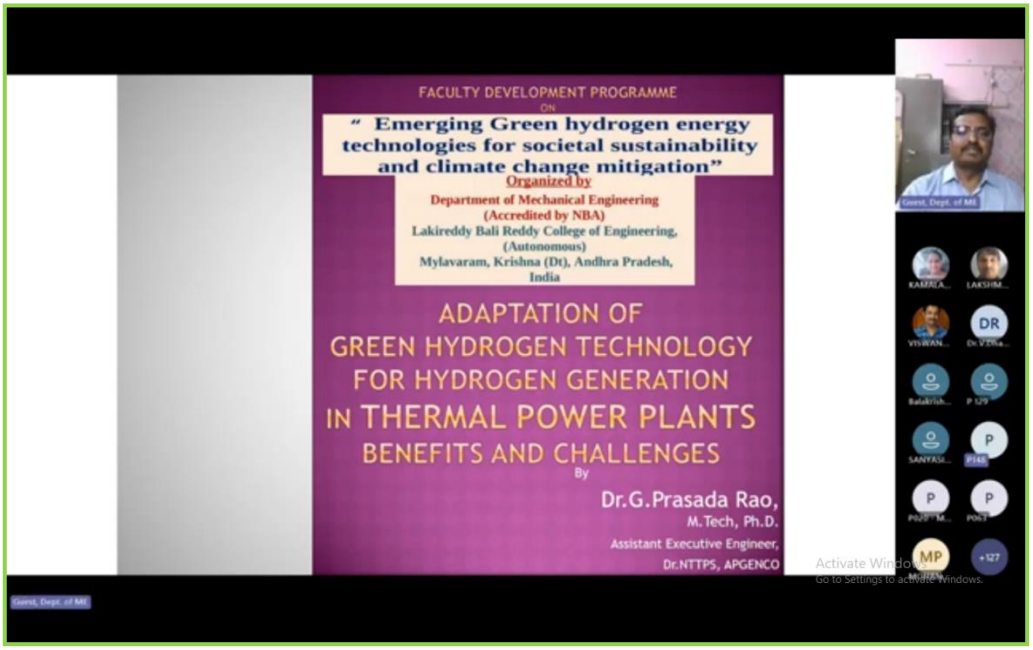

18-12-2024
Physical Models Recently Studied
Liquid Cooled Hydrogen Storage Device with bedded Heat Exchanger Tubes
Hydrogen Storage Device with Plate Fins
Hydrogen Storage Device with Radial Fins
Source: Dr. Mohan's PhD Thesis, IITM (2010)
29

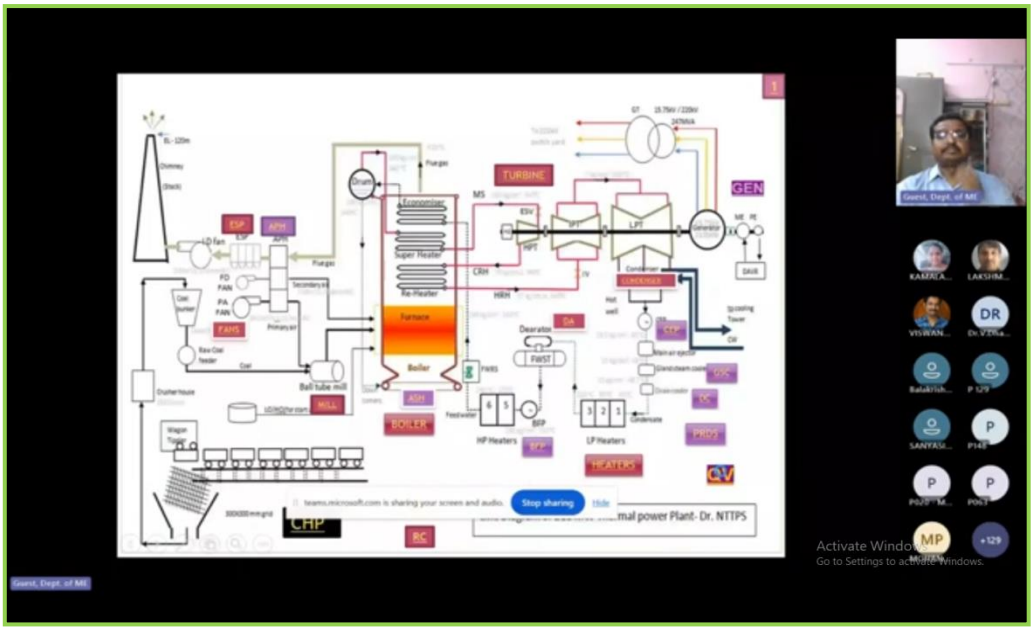


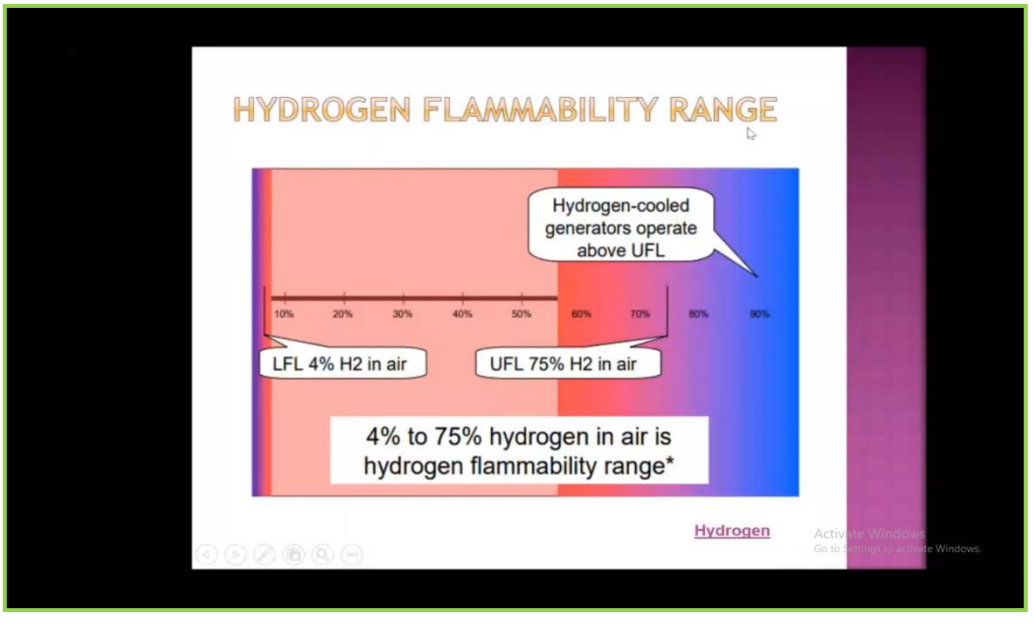
Day-3: (18.12.2024) Wednesday 7:30 PM - 9.00 PM Session 6

Topic: Adoption of green hydrogen technology for hydrogen generation in thermal power plants: benefits and challenges

Speaker:
Mr. G.Prasada Rao
Executive Engineer
Dr.Narla Tatarao Thermal Power Station
Ibrahimpatnam, Vijayawada



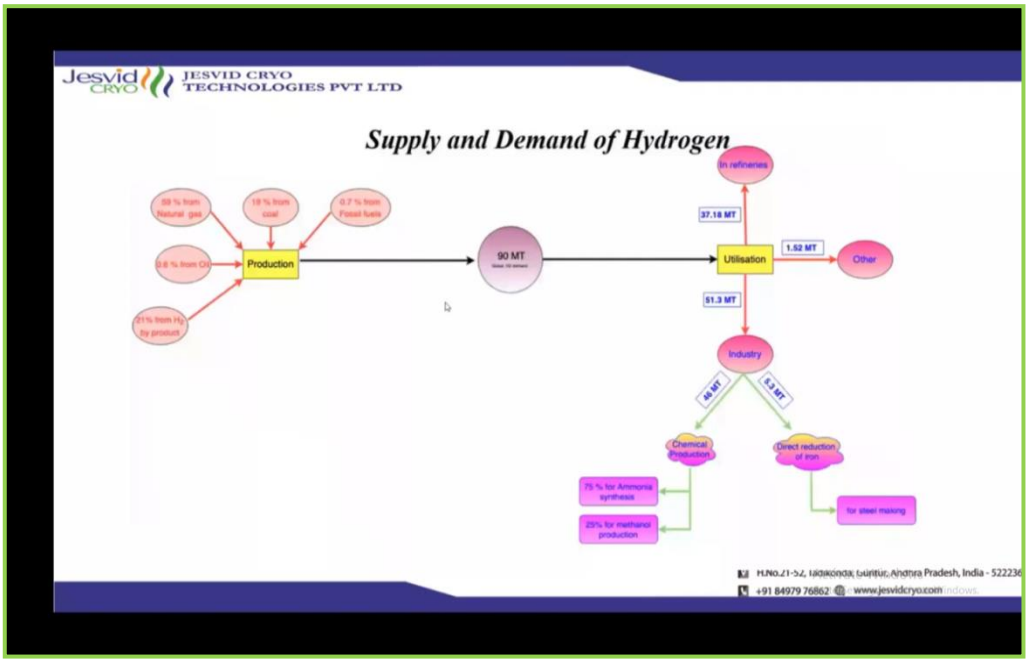

TURBINE
GEN
BOILER
CHP
Stop sharing
Hide

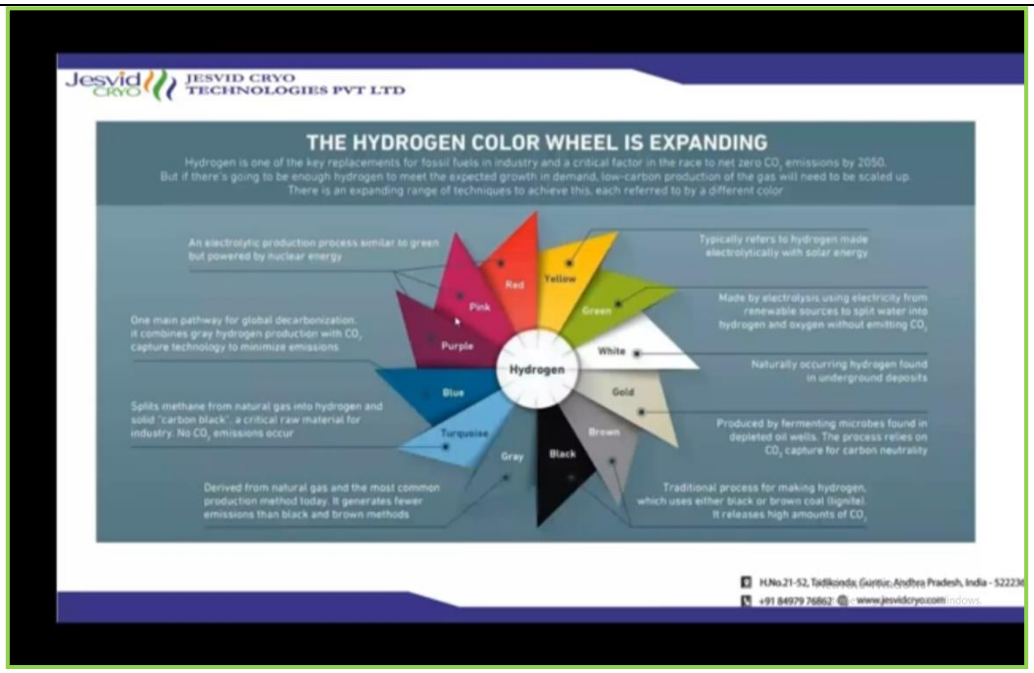

HYDROGEN FLAMMABILITY RANGE
Hydrogen-cooled generators operate above UFL
10%
20%
30%
40%
50%
60%
70%
80%
90%
LFL 4% H2 in air
UFL 75% H2 in air
4% to 75% hydrogen in air is hydrogen flammability range*
Hydrogen

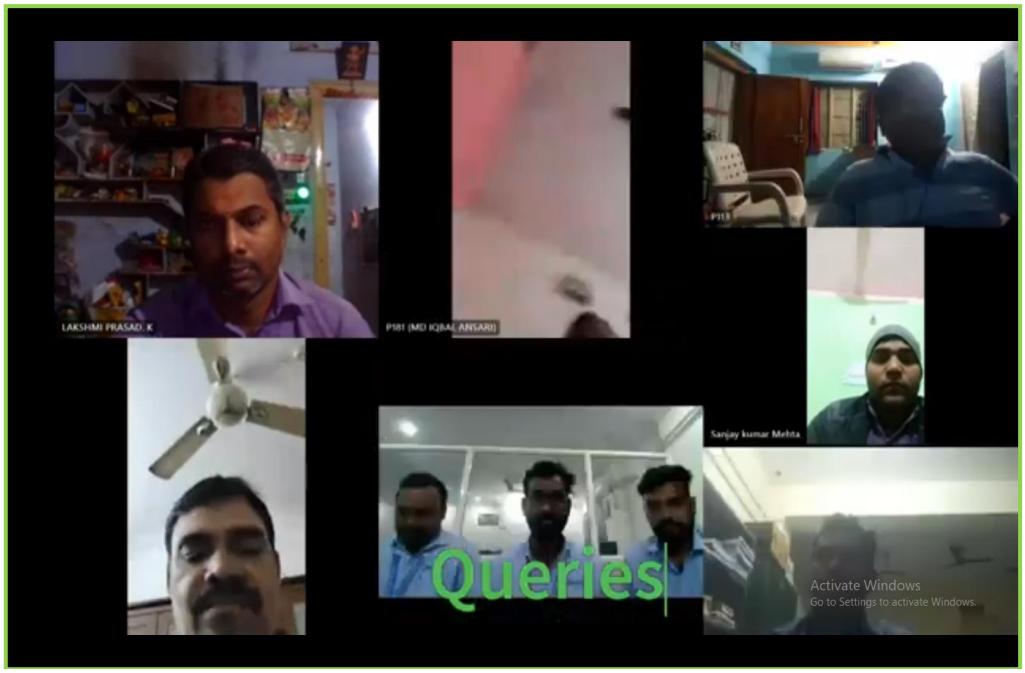
Day-4: (19.12.2024) Thursday 6:00 PM - 7:30 PM Session 7

Topic: Hydrogen energy generation

Speaker:
Mr. N.Vinod Kumar
Director,
JesvidCryo P Ltd,
Mangalagiri, Amaravati.





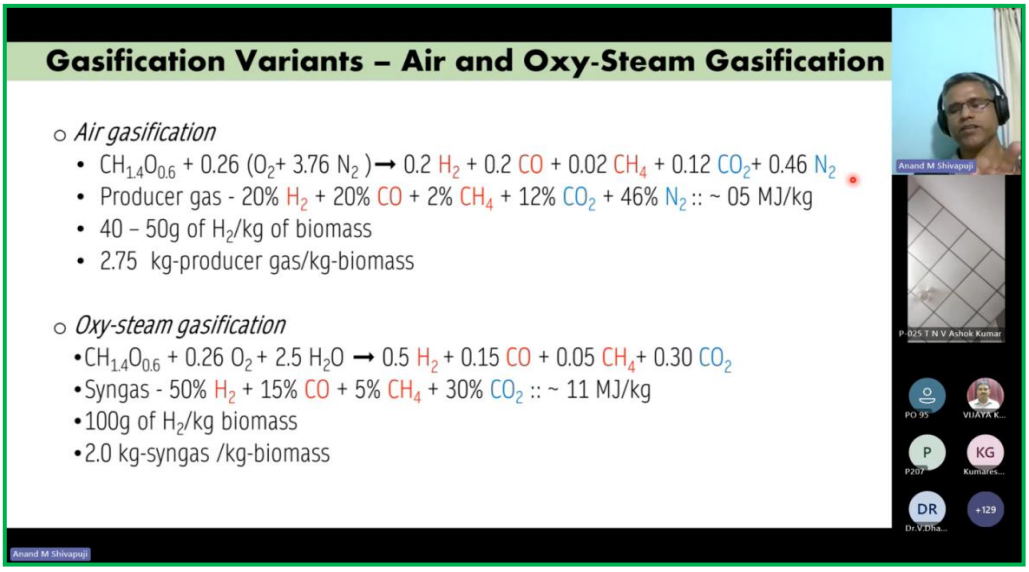


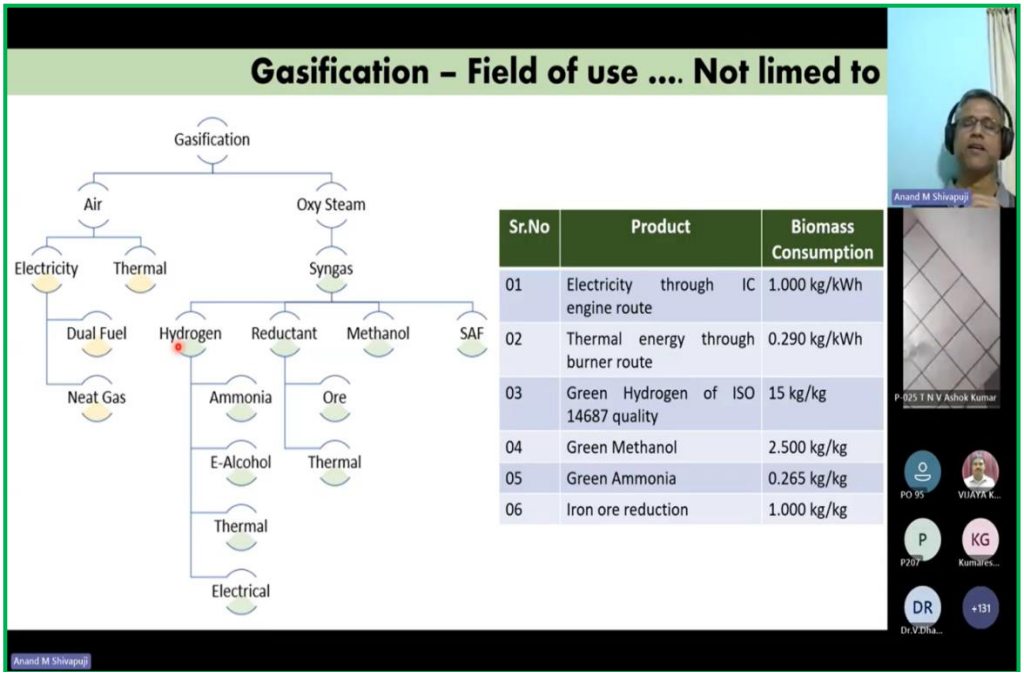
Day-4. (19.12.2024) Thursday 7:30 PM - 9:00 PM Session 8

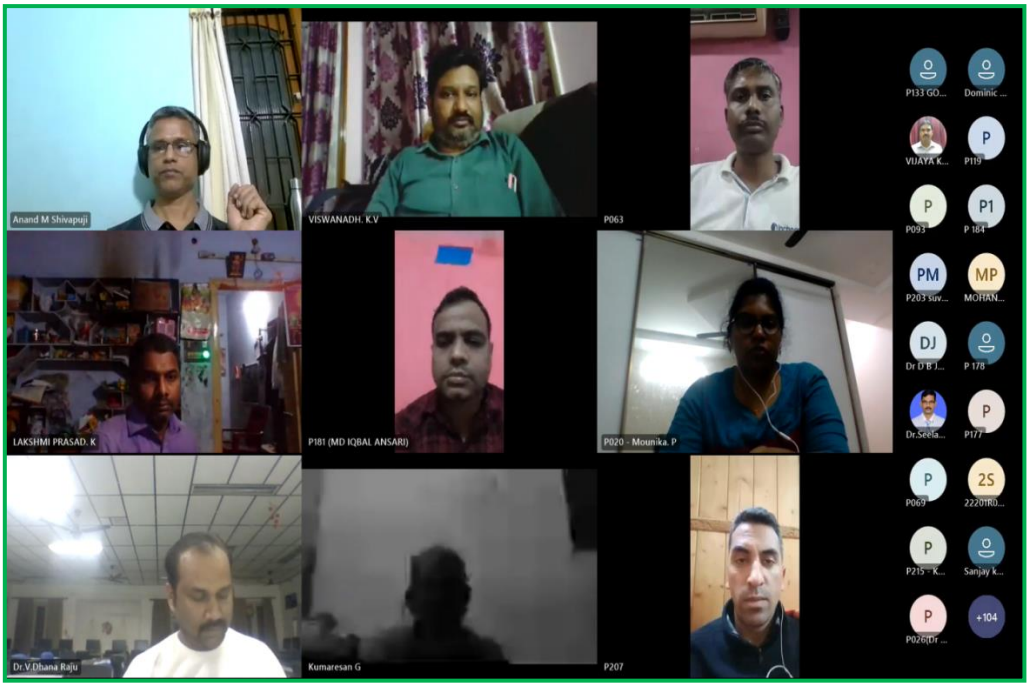
Topic: Representative concentration pathway analysis to understand climate change and role of hydrogen.

Speaker:
Dr. Anand M Shivapuji,
Senior Research Scientist,
Center for Sustainable Technologies,
IISc, Bengaluru.


Anand M Shivapuji
Dr D B Jani


Gasification Variants – Air and Oxy-Steam Gasification
Air gasification
$CH_{1.4}O_{0.6}$ + 0.26 (O_2+ 3.76 N_2) → 0.2 H_2 + 0.2 CO + 0.02 CH_4 + 0.12 CO_2+ 0.46 N_2
Producer gas - 20% H_2 + 20% CO + 2% CH_4 + 12% CO_2 + 46% N_2 :: ~ 05 MJ/kg
40 – 50g of H_2/kg of biomass
2.75 kg-producer gas/kg-biomass
Oxy-steam gasification
$CH_{1.4}O_{0.6}$ + 0.26 O_2 + 2.5 H_2O → 0.5 H_2 + 0.15 CO + 0.05 CH_4 + 0.30 CO_2
Syngas - 50% H_2 + 15% CO + 5% CH_4 + 30% CO_2 :: ~ 11 MJ/kg
100g of H_2/kg biomass
2.0 kg-syngas /kg-biomass
Anand M Shivapuji

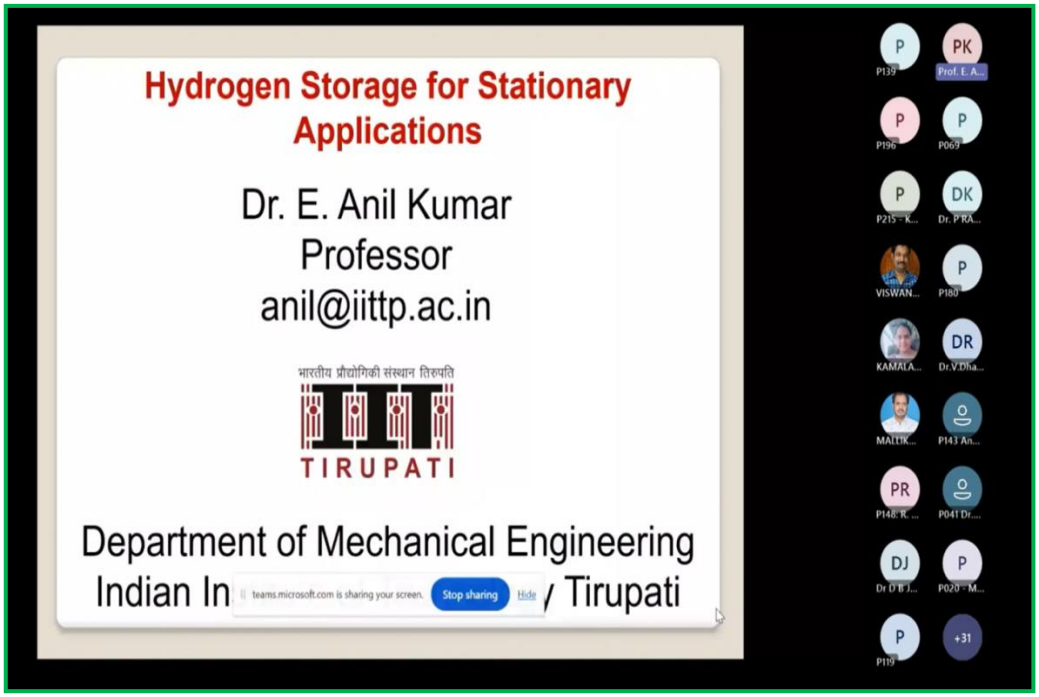

Gasification – Field of use .... Not limed to
Gasification
Air
Oxy Steam
Electricity
Thermal
Syngas
Dual Fuel
Hydrogen
Reductant
Methanol
SAF
Neat Gas
Ammonia
Ore
E-Alcohol
Thermal
Thermal
Electrical
Sr.No
Product
Biomass Consumption
01
Electricity through IC engine route
1.000 kg/kWh
02
Thermal energy through burner route
0.290 kg/kWh
03
Green Hydrogen of ISO 14687 quality
15 kg/kg
04
Green Methanol
2.500 kg/kg
05
Green Ammonia
0.265 kg/kg
06
Iron ore reduction
1.000 kg/kg
Anand M Shivapuji

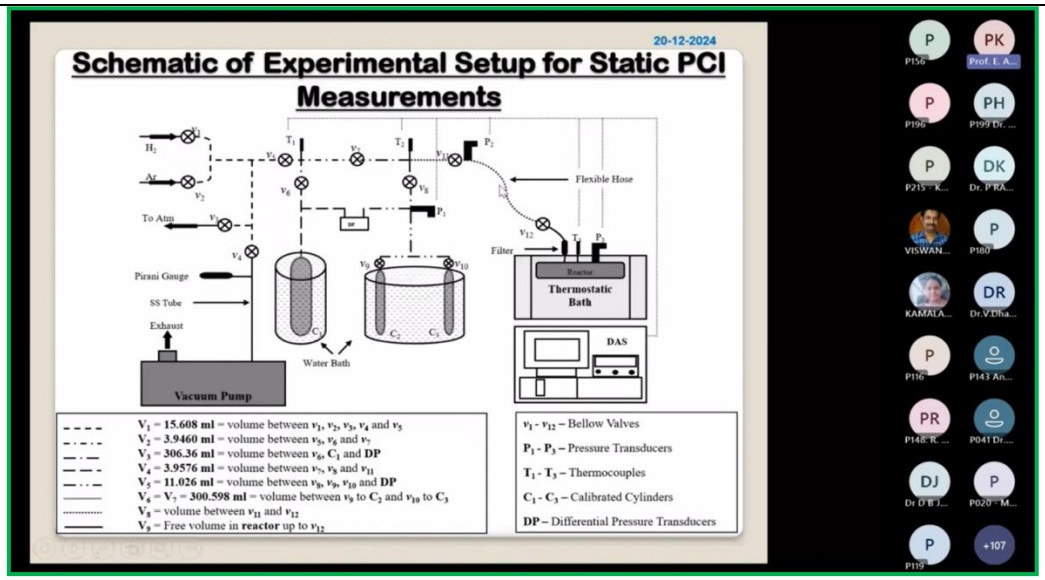


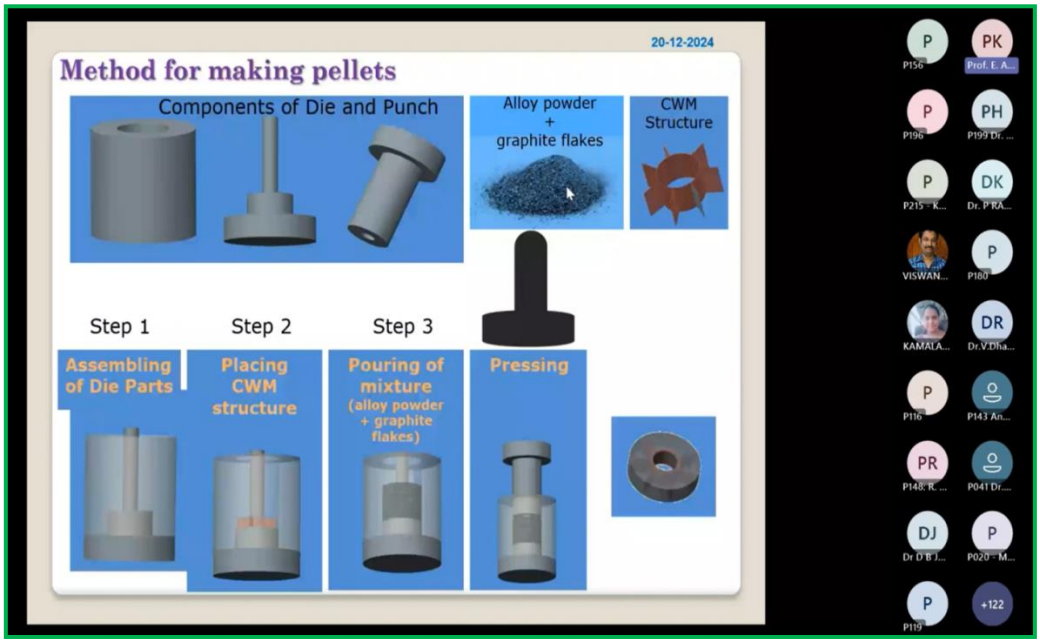
Day-5: (20.12.2024) Friday 6:00 PM - 7.30 PM Session 9

Topic: Solid state hydrogen storage for sustainable energy conversion and storage

Speaker:
Dr. E.Anil Kumar
Professor,
Department of Mechanical Engineering
IIT, Tirupati.



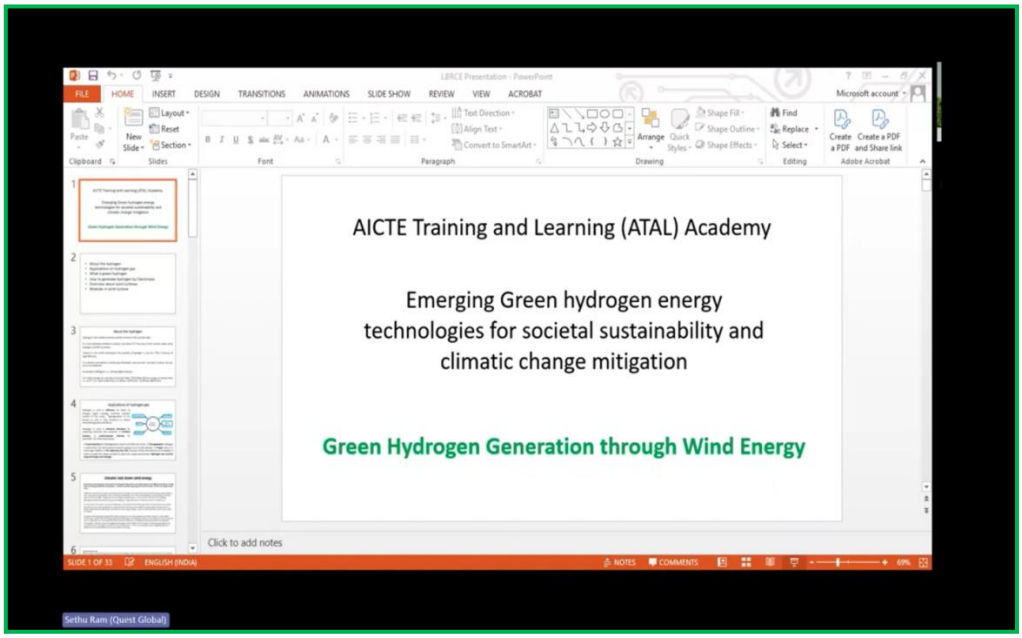

20-12-2024
Schematic of Experimental Setup for Static PCI Measurements
Flexible Hose
Filter
Thermostatic Bath
DAS
Vacuum Pump
Pirani Gauge
SS Tube
Exhaust
To Atm
Water Bath
V_1 = 15.608 ml = volume between v_1, v_2, v_3, v_4 and v_5
V_2 = 3.9460 ml = volume between v_5, v_6 and v_7
V_3 = 306.36 ml = volume between v_6, C_1 and DP
V_4 = 3.9576 ml = volume between v_7, v_8 and v_{11}
V_5 = 11.026 ml = volume between v_8, v_9, v_{10} and DP
V_6 – V_7 = 300.598 ml = volume between v_9 to C_2 and v_{10} to C_3
V_8 = volume between v_{11} and v_{12}
V_9 = Free volume in reactor up to v_{12}
v_1 - v_{12} – Bellow Valves
P_1 - P_3 – Pressure Transducers
T_1 - T_3 – Thermocouples
C_1 - C_3 – Calibrated Cylinders
DP – Differential Pressure Transducers

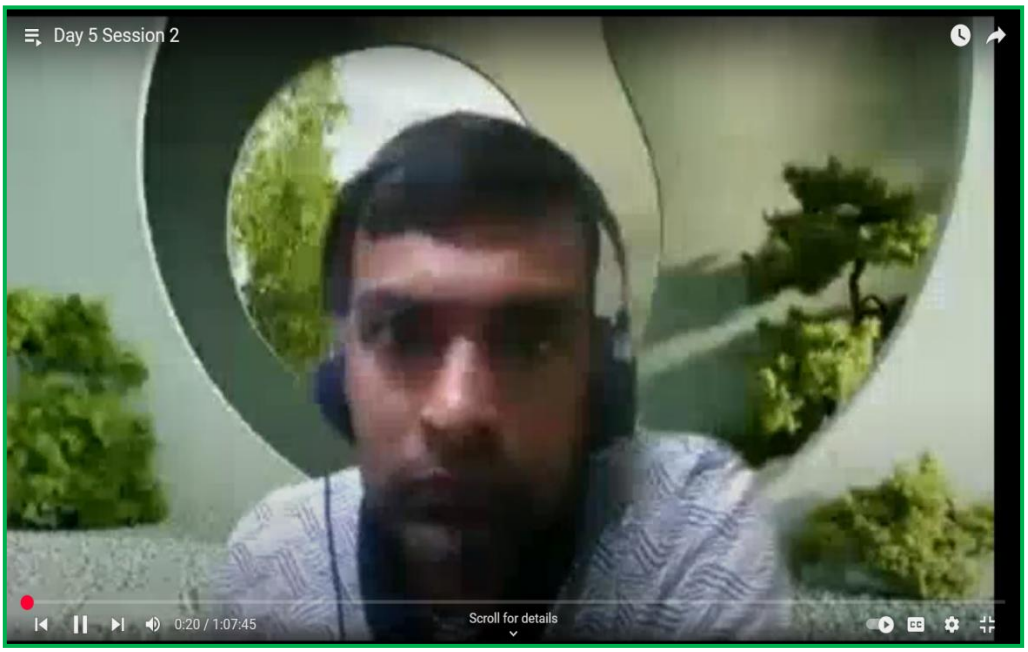

20-12-2024
Method for making pellets
Components of Die and Punch
Alloy powder + graphite flakes
CWM Structure
Step 1
Step 2
Step 3
Assembling of Die Parts
Placing CWM structure
Pouring of mixture (alloy powder + graphite flakes)
Pressing

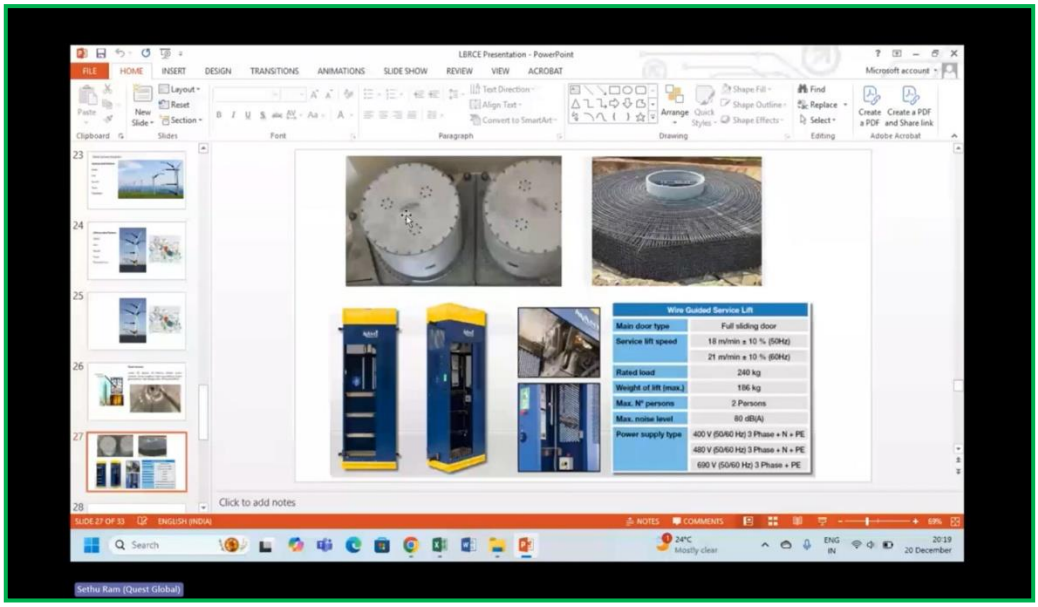
Day-5. (6.12.2024) Friday 7:30 PM–9:00 PM Session 10

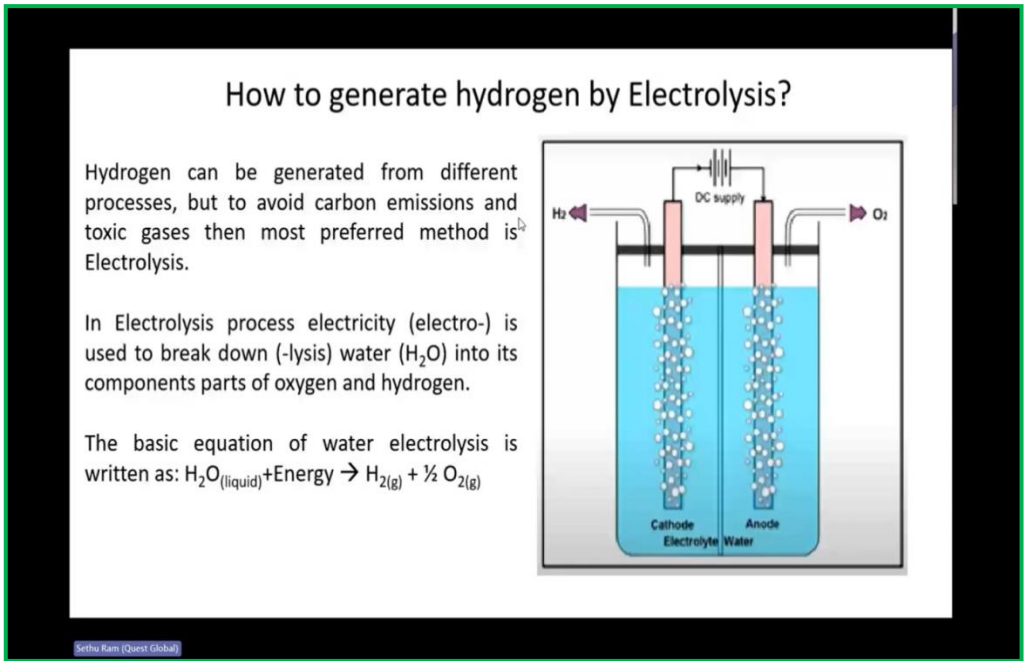
Topic: Hydrogen production and its impact on climate change

Speaker:
Mr. V.Sethuram
Team Lead,
Global Quest Bengaluru





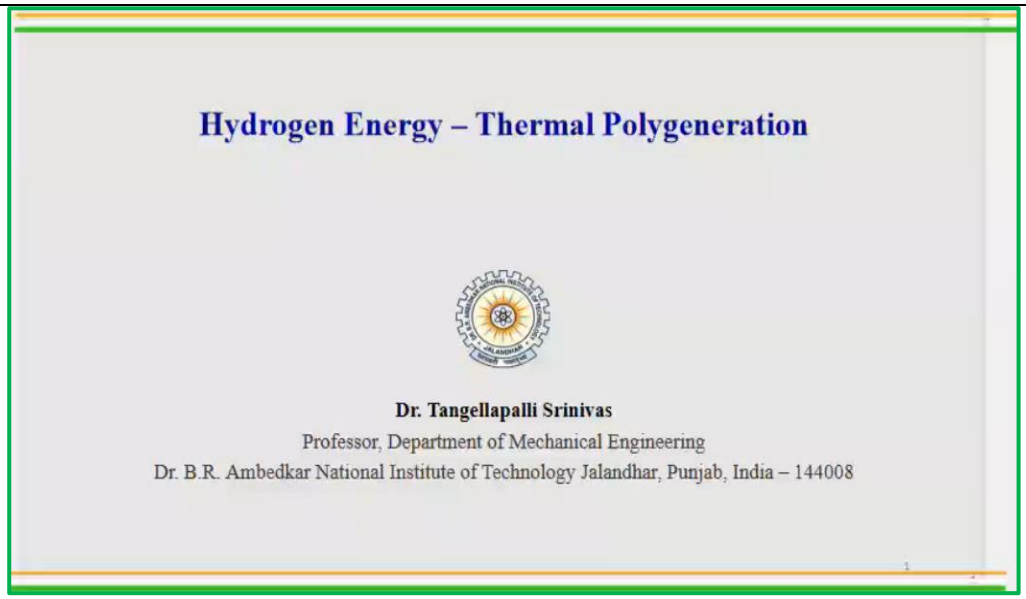


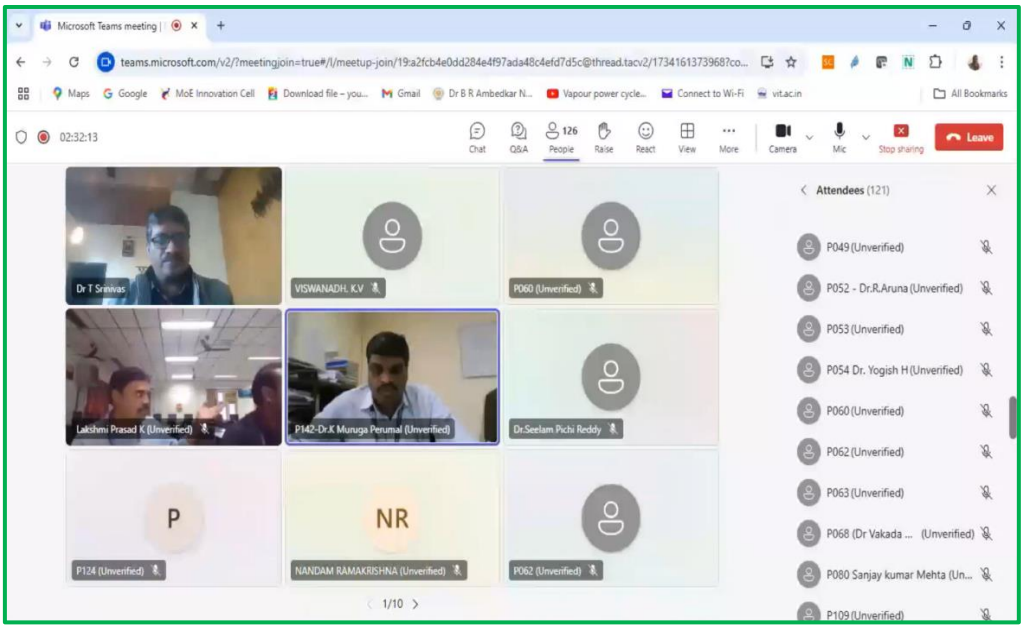


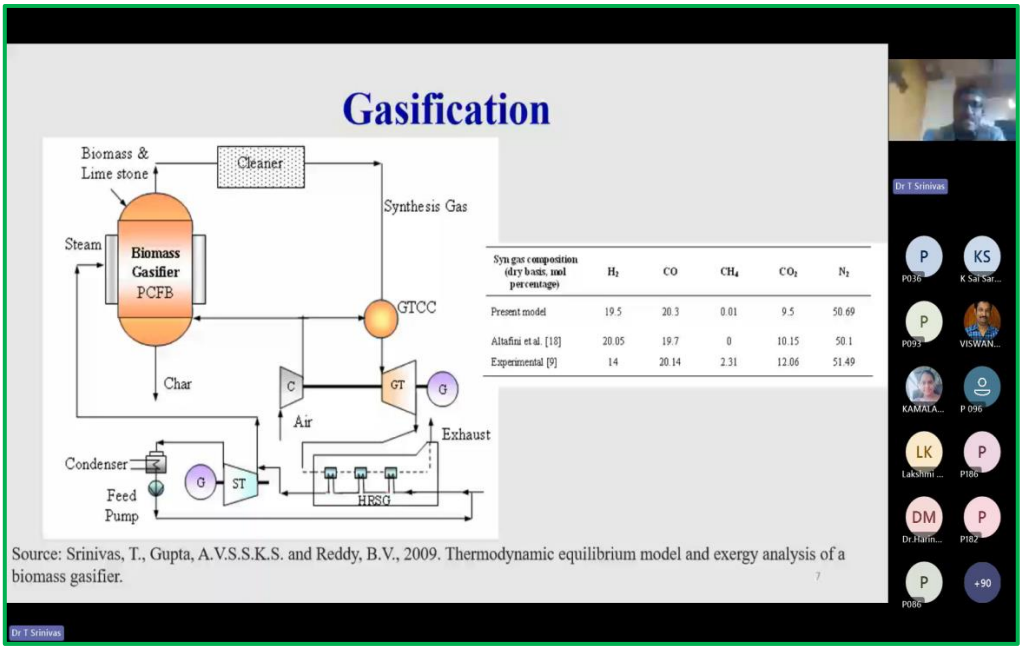
Day-6: (21.12.2024) Saturday 2:00 PM – 3:30 PM Session 11

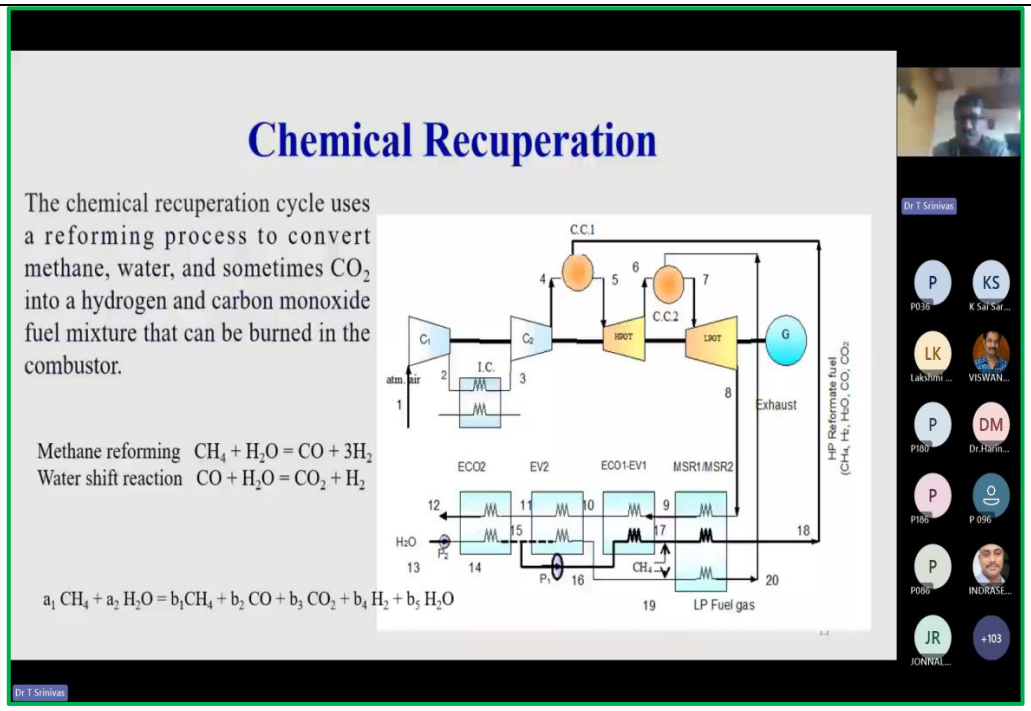
Topic: Hydrogen energy applications in Thermal Polygeneration

Speaker:
Dr. T.Srinivas
Professor & Head,
Department of Mechanical Engineering
National Institute of Technology
Jalandhar, Punjab.


Hydrogen Energy – Thermal Polygeneration
Dr. Tangellapalli Srinivas
Professor, Department of Mechanical Engineering
Dr. B.R. Ambedkar National Institute of Technology Jalandhar, Punjab, India – 144008


Microsoft Teams meeting
Leave
Attendees (121)
P049 (Unverified)
P052 - Dr.R.Aruna (Unverified)
P053 (Unverified)
P054 Dr. Yogish H (Unverified)
P060 (Unverified)
P062 (Unverified)
P063 (Unverified)
P068 (Dr Vakada ... (Unverified)
P080 Sanjay kumar Mehta (Un...
P109 (Unverified)

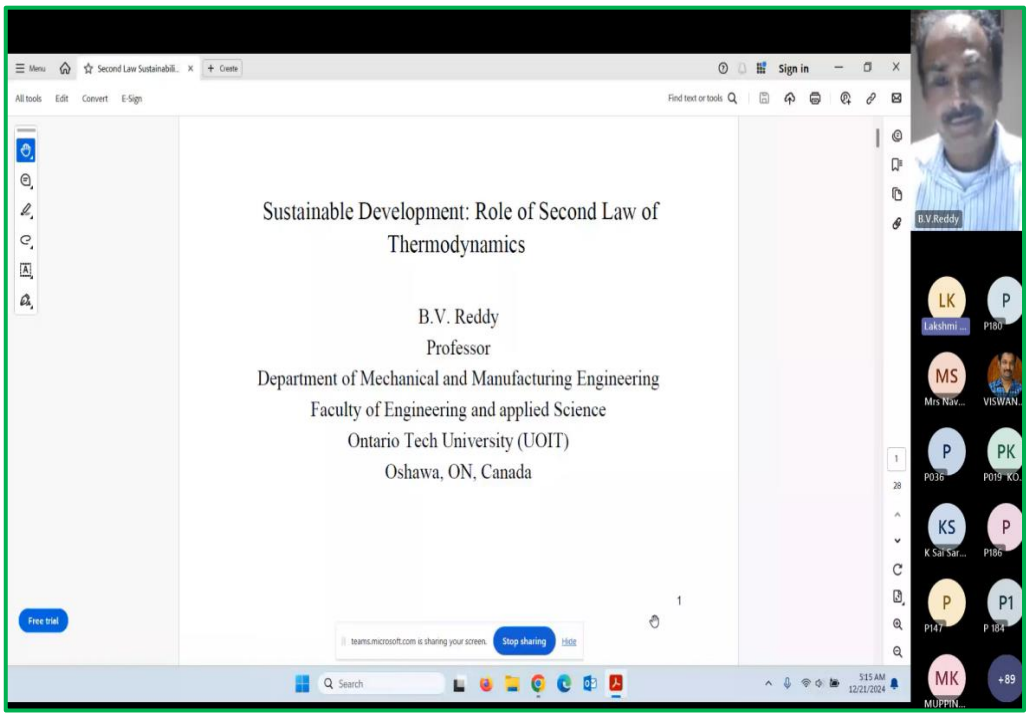

Gasification
Biomass & Lime stone
Cleaner
Synthesis Gas
Steam
Biomass Gasifier PCFB
GTCC
Char
Air
Exhaust
Condenser
Feed Pump
HRSG
Source: Srinivas, T., Gupta, A.V.S.S.K.S. and Reddy, B.V., 2009. Thermodynamic equilibrium model and exergy analysis of a biomass gasifier.



Day-6: (21.12.2024) Saturday 3:30 PM – 5:00 PM Session 12

Topic: Sustainable Development: Role of second law of Thermodynamics

Speaker:
Dr. Bale V Reddy
Professor,
Ontario Tech University, Oshawa
Canada



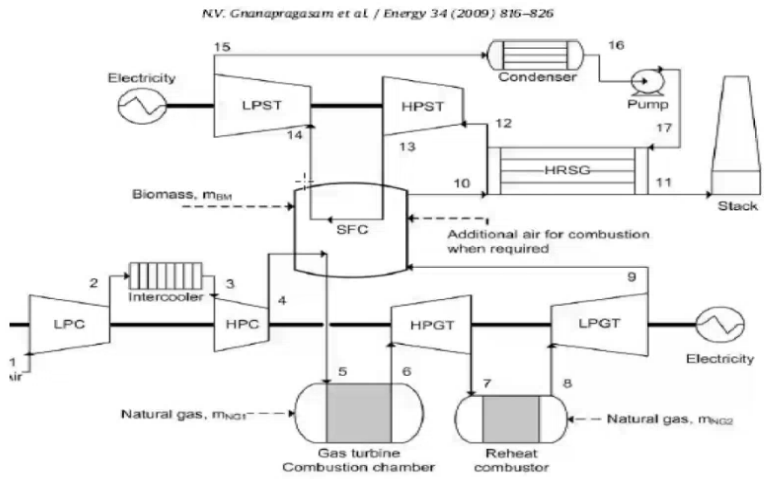


Figure 4. Natural gas fired combined cycle plant with biomass as supplementary fuel, [Ref; Gnanapragasam et al., (2009a)]

10

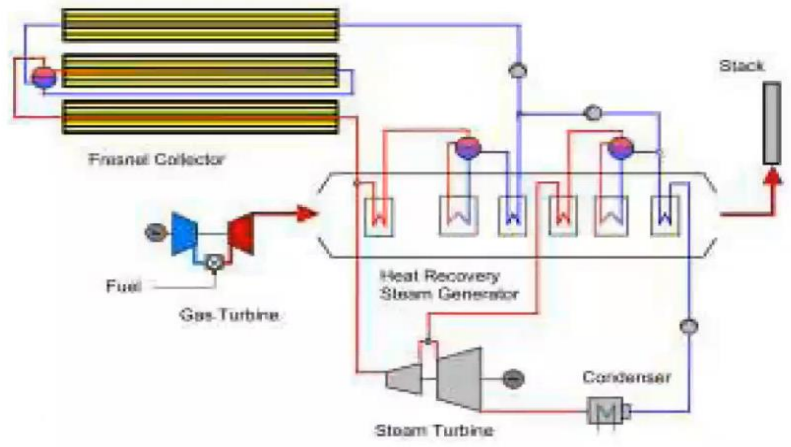


Figure 5. Natural gas and solar hybrid power generation system

13

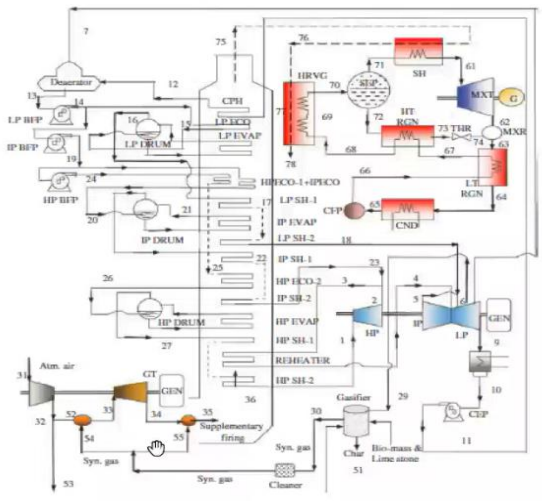


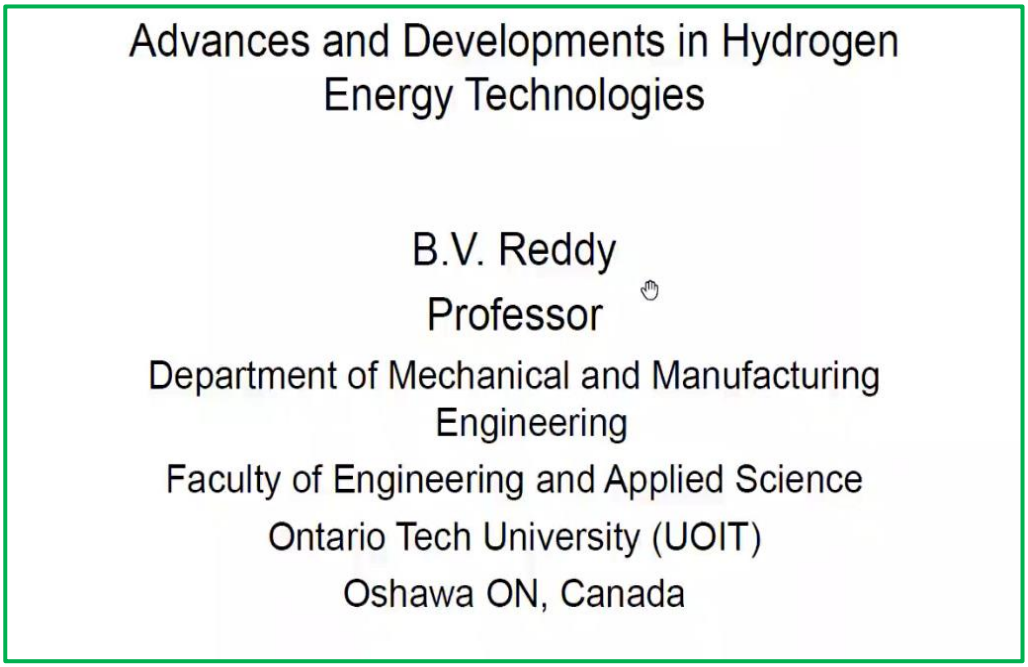
Figure 8. Biomass Gasification Triple cycle power generation System (Srinivas et al., IJGE, 2015)

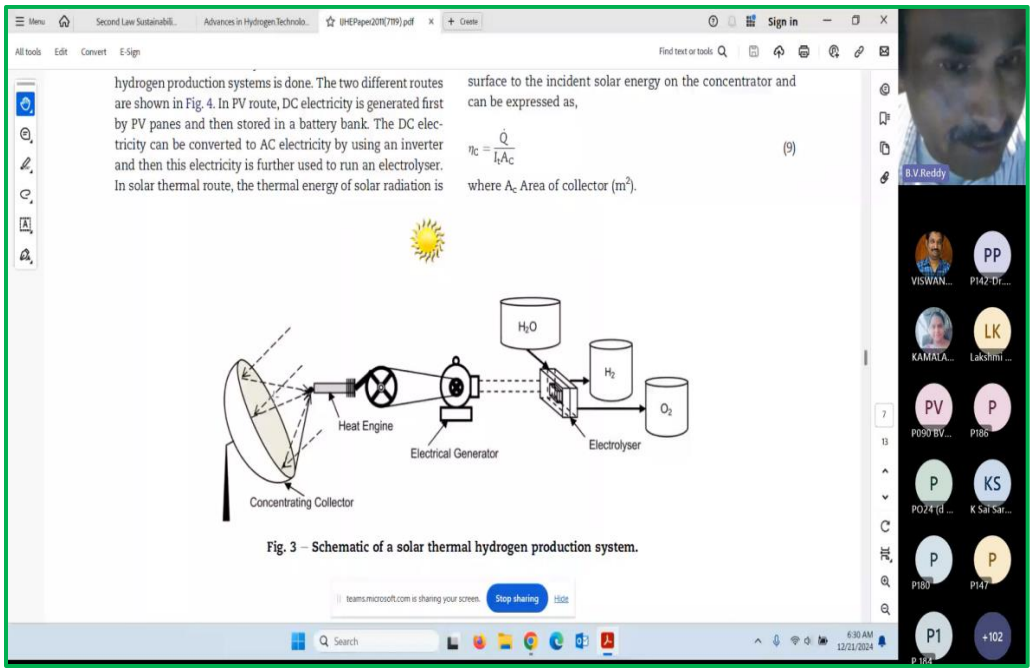
17

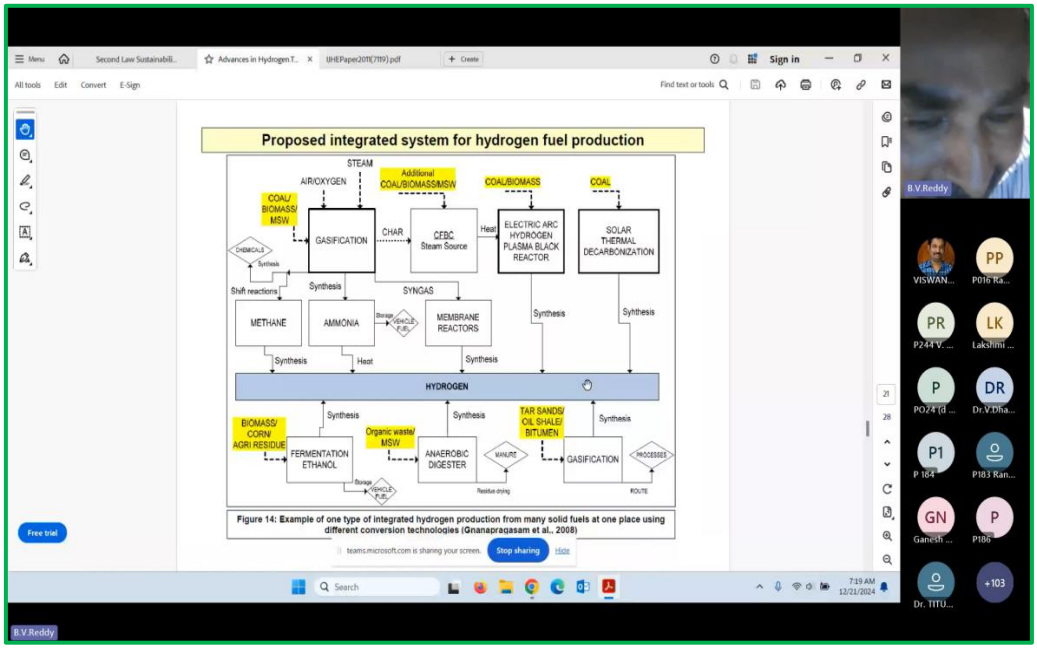
Day 6. (7.12.2024) Saturday 5:00 PM – 6:30 PM Session 13

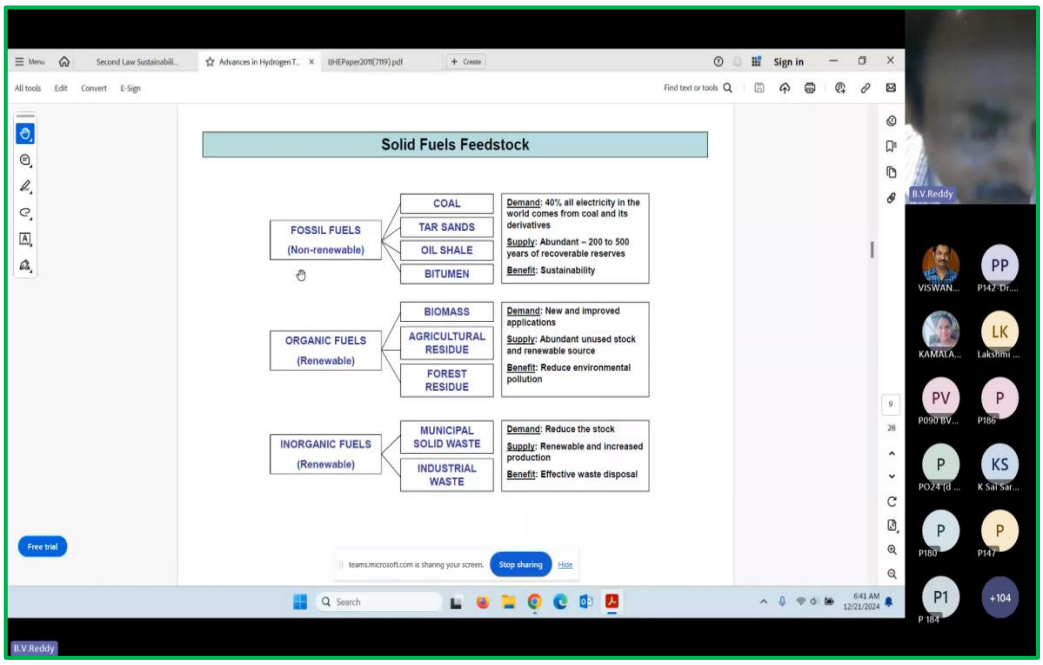
Topic: Advances and developments in hydrogen energy technologies

Speaker:
Dr. Bale V Reddy
Professor,
Ontario Tech University, Oshawa
Canada







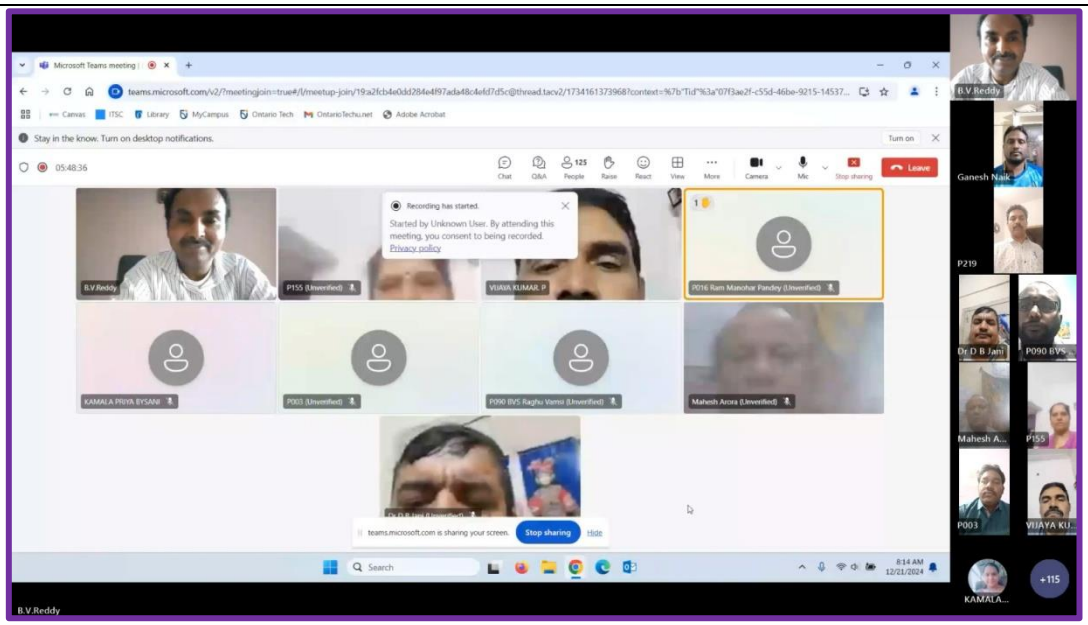


Youtube Playlist Link:

https://www.youtube.com/playlist?list=PLq4L14tcDIaLb4gGfJkF8akI_3sm2oKRm

VALIDICTORY

Department of Mechanical Engineering, Lakireddy Bali Reddy College of Engineering (A), Mylavaram, successfully organized a 6-day online ATAL Faculty Development Program (FDP) sponsored by AICTE on "**Emerging Green Hydrogen Energy Technologies for Societal Sustainability and Climate Change Mitigation**".



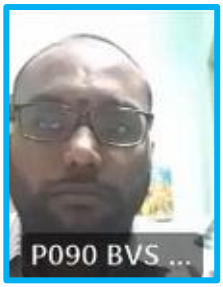
The valedictory function of this insightful 6-day online FDP was held on Saturday, with Dr. Bale V Reddy Professor, Department of Mechanical Engineering, Ontario Tech University, Oshawa, Canada as the chief guest. Addressing the gathering, Dr. Bale V Reddy emphasized the critical importance of advancing green energy solutions and innovative storage technologies to achieve a sustainable future. Dr. Bale V Reddy highlighted recent advancements in renewable energy systems, including solar, wind, and bioenergy, and their integration with efficient energy storage mechanisms such as battery technologies and thermal storage systems. He stressed the need for interdisciplinary collaboration to overcome challenges in energy efficiency, grid integration, and scalability. He also explored the potential of emerging technologies like hydrogen storage, smart grids, and advanced materials for energy storage in revolutionizing the energy sector. Encouraging participants to contribute to this rapidly evolving field, Dr. Bale V Reddy discussed the significant role of engineers to play in accelerating the transition to green energy systems that align with global sustainability goals. The program concluded with a vote of thanks to the distinguished guest, resource persons, and participants, recognizing their dedication and active participation in exploring innovative solutions for a greener and more sustainable energy future.

Feedback from participants:

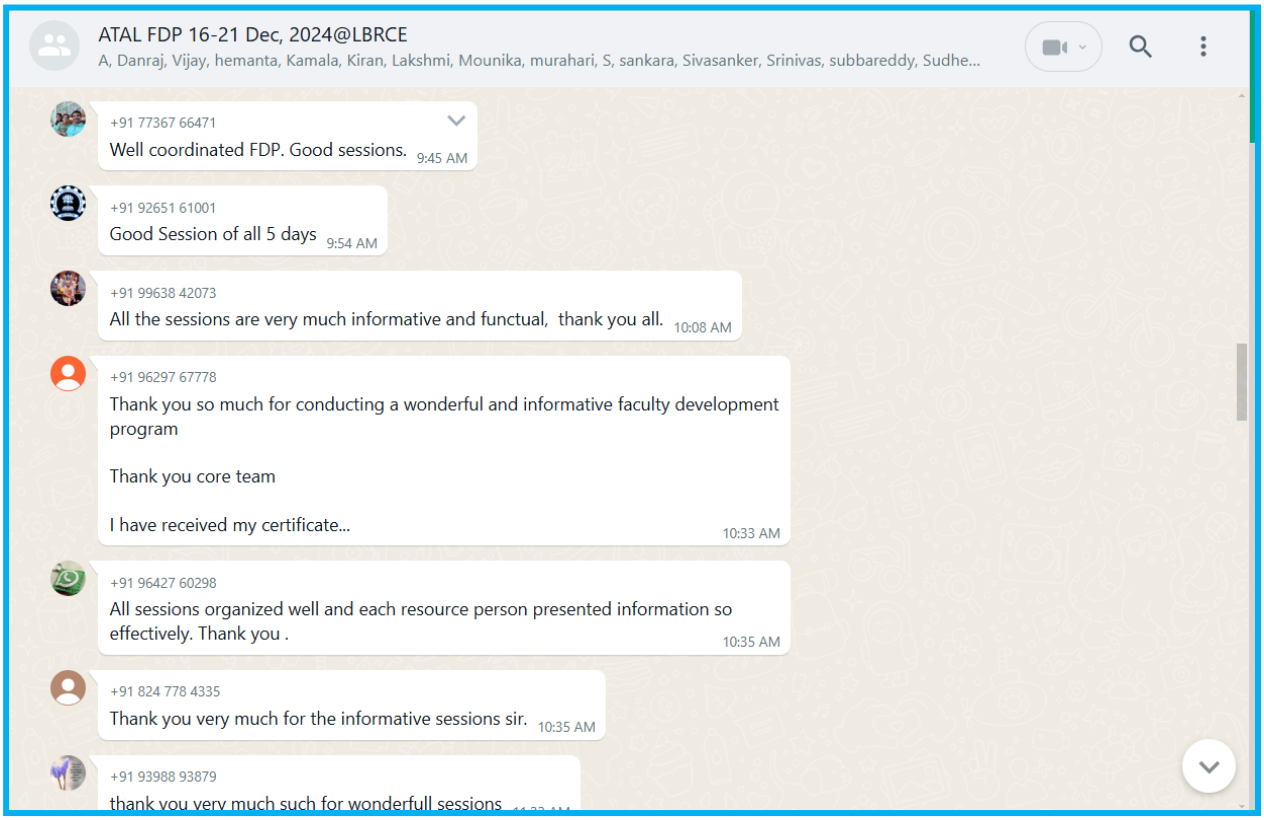
The Faculty Development Program (FDP) on **Emerging Green Hydrogen Energy Technologies for Societal Sustainability and Climate Change Mitigation** aimed to equip participants with advanced knowledge and practical insights while employing a multi-layered feedback mechanism to ensure participant inputs were effectively collected, analyzed, and addressed. Feedback was gathered through structured ATAL portal reviews, highlighting the relevance of topics and the expertise of resource persons; daily online meeting chats, which enabled real-time adjustments based on participant thoughts and challenges; and a final comprehensive session where attendees shared overall experiences and actionable ideas for teaching and research.

Participants appreciated the program's relevance to current Green Hydrogen energy trends, practical demonstrations, and valuable networking opportunities, while also suggesting the inclusion of more hands-on sessions, extended Q&A time, and follow-up workshops on specialized topics. The FDP significantly enhanced participants' understanding of the important technologies, inspiring them to integrate these insights into teaching modules and initiate research projects focused on sustainable practices.

Feed back in Teams platform:

Participants	Image	Feedback
Dr. V.Suresh, Godavari Institute of Engg& Tech, Rajahmundry		I would like to thank convenor, coordinators of the event & management of the LBRCE. We have learned so many things on this FDP. Every session is wonderful and very fruitful information is received. Thank you for giving this opportunity.
Mr. B.V.S. Raghuvamsi SR Gudlavalleru Engineering College, Gudlavalleru		I have attended all the sessions, cover a lot of information starting from generation of Hydrogen in different methods, storage methods and especially today's lecture, which is focused on applications by taking combination of various cycle. All the sessions are very much informative. And the points mentioned by the today's lecture are high lighting important aspects. Very thankful to LBRCE.
Dr.D B Jani, Govt. Engineering College, Dahod, Gujarat		We are thankful to the organizers of this program, coordinators and directors of this institute for arranging very well program regarding the research functions in the renewable energy, we can get lot of knowledge through the using & utilizing solar energy for harvesting the free, sustainable energy source some hydrogen gas storage, transportation and likewise. So we may explore certain new and innovative renewable energy. Thank you all for giving this opportunity.
Dr. Alli Rani, Sri Rama Krishna Engg. College, Coimbatore		I am from electrical background.so, these sessionsI did not know much about to hydrogen energy to be frank. But I have thirst for this topic, for knowing more on topic on this hydrogen generation and storage. At this organization with NIT & IIT for very very good content. And very thankful for the organizers and the institute. ATAL AICTE organization such a wonderful event. Thank you all.

Feedback collected from Whatsapp Group:



Coordinator
Dr. P.Vijaya Kumar
Professor
Department of Mechanical Engineering
Lakireddy BalireddyCollege of Engineering (A)