

A. D. Patel Institute of Technology

(A Constituent College of CVM University)



Automobile Engineering Department

**A Short Term Training Program [Online] on
“Automotive Engine, Emissions &
Green Fuel Technology”**

Sponsored By:

GUJCOST,

Dept. of Science and Technology, Govt. of Gujarat

October 12th – 17th, 2020

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(Principal, ADIT)

Convener

Dr. S.M.Patel

(Head, AE, ADIT)

Program Coordinators

Dr. N.M.Patel

Prof. K.D.Patel

CVM University:

Charutar Vidya Mandal (CVM), was established in the year 1945 with a prime objective of rural development through education. The uniqueness of this trust lies in its ability to use quality education as a powerful means of social transformation. Presently CVM Manages 49 educational institutions from schools to colleges and sophisticated research institutes. CVM University has been established since 2020 is spread over 700 acres and comprises of 19 institutions.

The Institute:

A D Patel Institute of Technology was established in the year 2000, is one of the pioneering institute imparting technical education in the state of Gujarat, India. The institute is located in satellite township of New Vallabh Vidyanagar having green natural environment and beautiful landscape near educational hub of the state, Vallabh Vidyanagar and Milk city Anand. Institute is running eight UG programmes viz. Automobile, Civil, Computer, Electrical, Electronics and Communication, Food Processing Technology, Information Technology and Mechanical Engineering; and Six PG programmes including Thermal Engineering, CAD/CAM, Renewable Energy Engineering, Food Technology, Artificial Intelligence and Signal Processing and communication.

About Department:

The department of Automobile Engineering was started in the year 2003, being pioneer in the state of Gujarat. Department offers Degree in Automobile Engineering at UG level. Department is having well qualified and experienced teaching faculty members including 3 Ph.D. and 5 Pursuing Ph.D. & 1 M.Tech. Department is having well equipped state of art laboratories with excellent infrastructure.

About STTP:

Automobile industry all over the world experiences opportunities and challenges. Even though the existing technologies of vehicle are safe and reliable, incidents of vehicle call backs are reported. Hence, every OEM of automobiles is keen on developing automobiles with paramount quality. Moreover, the world is getting more concerned about environmental protection and green fuel technologies that had led to the development of green fuel driven vehicles, electric power driven vehicles, etc. The short-term training program tries to cover up all the above aspects with sharing of recent development by experts.

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Topics Covered

- Recent developments in engine and emission standards
- Challenges of Emerging fuels
- Emerging green fuel technologies
- Electric vehicles, opportunities and challenges
- Engine exhaust particle formation and Control
- Engine Optimization Techniques

Resource Persons

Expert Lectures from leading Automotive Industries and academicians from premier institutions.

Target Participants

Faculties from Automobile, Mechanical and other allied branches of engineering of AICTE approved Degree and Diploma institutes, and delegates from Industries are eligible to apply.

Registration

Registration Link: <https://forms.gle/G7zd99PDjKPK2Ey86>

Limited Seats are available. Registration will be done on early basis.

No Registration Fees. Last date of registration: 09/10/2020

Mode Of Webinar

All sessions will be conducted Online through Google Meet Platform.

In Case Of Queries Contact

Prof. Kuldeep D.Patel
Program Coordinator
Automobile Engineering Department
A. D. Patel Institute of Technology
New V V Nagar, Gujarat
www.adit.ac.in
Mobile: 8128083309
Email: ae.kuldeep@adit.ac.in



Register Here

SCHEDULE

A Short Term Training Program [online] on "Automotive Engine, Emissions & Green Fuel Technology"

	Day-1	Time	Schedule
12/10/2020	Session A	2:00pm to 3:00pm	Inaugural session. Welcome address, opening remarks with Key note Speech by eminent speaker in the relevant field.
	Session B	3:00pm to 5:00pm	A Technical Session by eminent speaker.
13/10/2020	Day-2	3:00pm to 5:00pm	A Technical Session by eminent speaker.
14/10/2020	Day-3	3:00pm to 5:00pm	A Technical Session by eminent speaker.
15/10/2020	Day-4	3:00pm to 5:00pm	A Technical Session by eminent speaker.
16/10/2020	Day - 5	3:00pm to 5:00pm	A Technical Session by eminent speaker.
17/10/2020	Day - 6	10:00am to 12:00pm	Live Demonstration of latest equipments of Automobile Engineering Laboratories at ADIT.
		3:00pm to 5:00pm	A Technical Session by eminent speaker. Feedback Session, Concluding remarks, Valedictory Session.

Organizing Committee:

- Dr. Ajith James
- Prof. N.S.Yagnik
- Prof. S.J.Shelat
- Prof. S.B.Prajapati
- Prof. Y.J.Gambhava

A. D. Patel Institute of Technology
(A Constituent college of CVM University)
Automobile Engineering Department, New V V Nagar-Gujarat

STTP on : Automotive Engine, Emissions & Green Fuel Technology; 12th to 17th October, 2020
Sponsored By: GUJCOST, Dept. of Science and Technology, Govt. of Gujarat

12.10.2020 MONDAY		MR. P. ARJUN RAJ TECHNICAL INNOVATION AND WAVE CONSULTANT HOSUR, TAMIL NADU	ELECTRIC VEHICLE TESTS AND STANDARDS
13.10.2020 TUESDAY		MR. DUSHYANT BHATT POWERTRAIN TESTING, ENGINEER, MERCEDES-BENZ- R&D, PUNE- INDIA	AUTOMOTIVE ENGINE AND EMISSIONS
14.10.2020 WEDNESDAY		DR. MILIND S. YADAV ASSOCIATE PROFESSOR MECHANICAL ENGINEERING DEPT. FINOLEX ACADEMY OF MANAGEMENT AND TECHNOLOGY, RATNAGIRI- MAHARASHTRA	VCR ENGINE OPTIMIZATION TECHNIQUES
15.10.2020 THURSDAY		DR. FEMINA PATEL HEAD - CHEMICAL ENGINEERING DEPARTMENT. VISHVAKARMA GOVERNMENT ENGINEERING COLLEGE, CHANDKHEDA - GANDHINAGAR.	AUTOMOTIVE CATALYSTS AND ITS COATING PROCESS
16.10.2020 FRIDAY		DR. PARESH D. PATEL ASSISTANT PROFESSOR, AUTOMOBILE ENGINEERING DEPT., L. D. COLLEGE OF ENGINEERING, AHMEDABAD	LIFE CYCLE ANALYSIS OF AUTOMOTIVE ENGINE
17.10.2020 SATURDAY		MR. PRADEEP CHANDRASEKARAN GENERAL MANAGER RESEARCH & DEVELOPMENT FORCE MOTORS LIMITED. PUNE- MAHARASHTRA	FUTURE OF DIESEL CARS IN INDIA – IMPACT DUE TO REGULATIONS EXPECTED IN 2023 & BEYOND

Program summary:

An ONLINE Short Term Training Program (STTP) on **“Automobile Engine, Emissions and Green Fuel Technology”** was organised during 12th October 2020 to 17th October 2020 (6 days) by Automobile Engineering Department, A.D.Patel Institute of Technology (A Constituent College of CVM University), sponsored by GUJCOST, Dept. of Science & Technology, Govt. of Gujarat.

The STTP was mainly for the faculty members of Automobile, Mechanical and other allied branches of degree & diploma engineering colleges and for industry delegates. The program included expert lectures delivered mainly by Industry experts from the respective domain who had given a flavour of the academic research activities happening in the domain of automobiles. Apart from these, virtual hands on practice in automobile laboratories were conducted on live virtual mode.

The program was started on 12th October 2020 at 2 pm with inaugural session. Welcome address was given by Dr. Sanjay Patel, Head, Automobile Engg., opening remarks by Dr. Vishal Singh, Principal, ADIT.

Key note Speech delivered by Mr.Pradip Chandrasekaran, General Manager (R&D), Force Motors Limited, Pune, Maharashtra, India has also delivered a technical session on Green Fuels.

On 12th October 2020, Mr.P.Arjunraj, Technical Innovation and Vave Consultant, Hosur,Tamilnadu, India delivered a technical session on Electric Vehicle Test and Standards.

On 13th October 2020, Mr.Dushyant Bhatt, Power train Testing Engineer, Mercedes-Benz (R&D), Pune, Maharashtra, India has delivered a technical session on Automotive Engine and Emissions.

On 14th October 2020, Dr.Milind Yadav, Associate Professor, Mechanical Engineering Department, Finolex Academy of Management and Technology, Ratnagiri, Maharashtra, Pune, India has delivered a technical session on VCR Engine Optimization Techniques.

On 15th October 2020, Dr.Femina Patel, Head, Chemical Engineering Department of Vishvakarma Government Engineering College, Chandkheda, Gandhinagar, Gujarat, India has delivered a technical session on Automotive Catalysts and Its Coating Process.

On 16th October 2020, Dr.Paresh D. Patel, Assistant Professor, L.D.College Of Engineering Ahmedabad, Gujarat has delivered a technical session on Life Cycle Analysis of Automotive Engine.

On 17th October 2020, Mr.Samarth J Shelat along with other faculty members of Automobile Engineering Department, ADIT has demonstrated latest laboratory equipments available at Automobile engineering laboratories, ADIT. The session was useful for the participants to get knowledge about latest automotive equipments.

On 17th October 2020, Mr.Pradip Chandrasekaran, General Manager (R&D), Force Motors Limited, Pune, Maharashtra, India has also delivered a technical session on Future Diesel Cars in India and Impact Due To Regulations Expected In 2023 & Beyond.

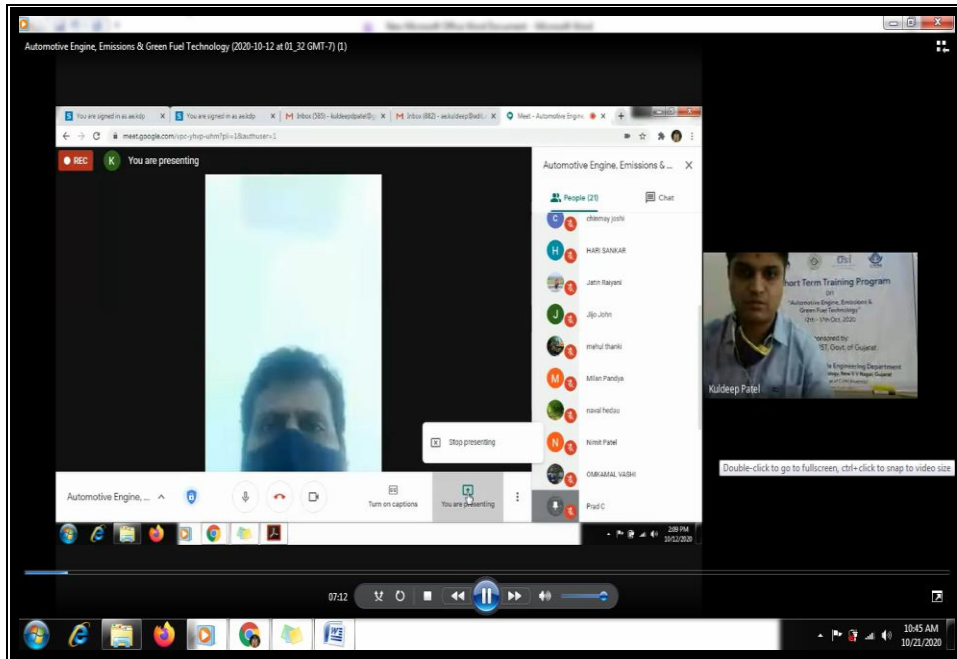
Dr. Nimit Patel, Program co-ordinator & Dr. Sanjay Patel, Head of the department, Automobile Engineering, Dr. Vishal Singh, Principal, ADIT, organising committee of the event, and all the participants are thankful to GUJCOST, DST, Govt. of Gujarat for sponsoring the STTP.

Photographs of the STTP: “Automobile Engine, Emissions and Green Fuel Technology”

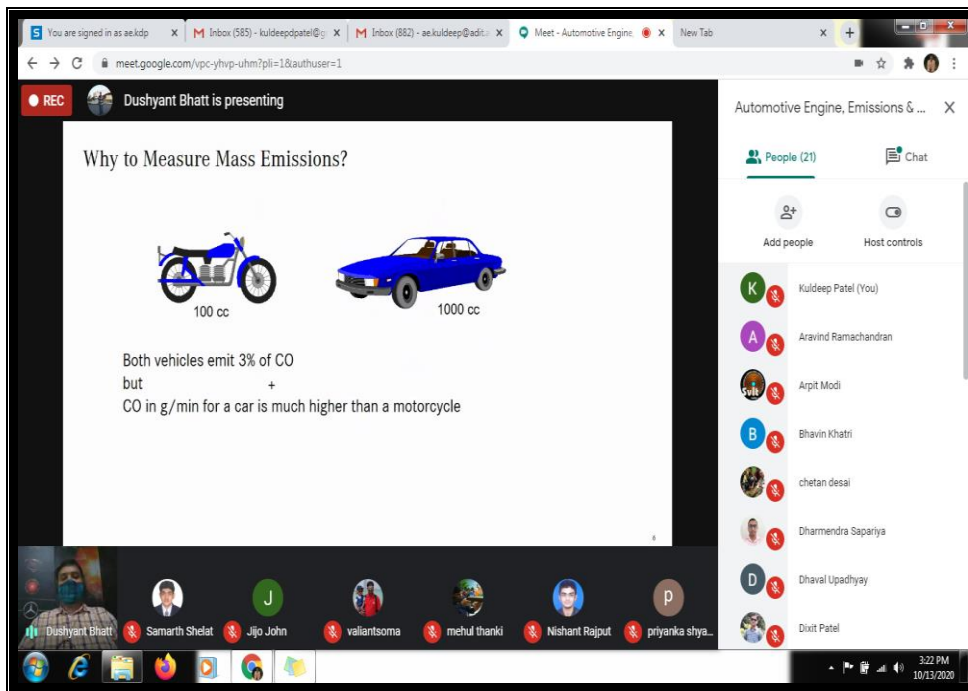


Date: 12/10/2020: Inauguration & Technical Session





Date: 13/10/2020: Technical Session



REC Dushyant Bhatt is presenting

Test Setup for Measuring Exhaust Emission

Automotive Engine, Emissions & ...

People (24) Chat

Add people Host controls

- Kuldeep Patel (You)
- abhishek swarnkar
- Aravind Ramachandran
- Arpit Modi
- Bhavin Khatri
- Bhavin Mehta
- chetan desai
- Dharmendra Sapariya

Dushyant Bhatt Samarth Shelat Jijo John valantsoma mehul thanki Bhavin Mehta priyanka shy...

Date: 14/10/2020: Technical Session

REC Milind Yadav is presenting

Some facts about VCR technology

- Overall Size and Vehicle Integration
- Knock Limit
- Thermal resistance limit
- Friction Losses
- Fuel Consumption Reduction Potential
- Noise Emissions and Vibrations
- Pollutants Emissions
- Reliability, Durability
- Use of alternative fuels with VCR
- Problems in mass manufacturing
- New technology needs high research and development and manufacturing costs
- Reliability is not proven
- Consumer reactions are unknown and unpredictable

Automotive Engi...

Automotive Engine, Emissions & ...

People (27) Chat

Add people Host controls

- Kuldeep Patel (You)
- abhishek swarnkar
- Agneyraj SK
- Aravind Ramachandran
- Arpit Modi
- Bhavin Khatri
- Bhavin Mehta
- Dharmendra Sapariya

Turn on captions Milind Yadav is presenting

3:57 PM 10/14/2020

REC Milind Yadav is presenting

Novel Variable compression ratio engine

Automotive Engi...

Automotive Engine, Emissions & ...

People (28) Chat

Add people Host controls

- Kuldeep Patel (You)
- abhishek swarnkar
- Agneyraj SK
- Aravind Ramachandran
- Arpit Modi
- Bhavin Khatri
- Bhavin Mehta
- Dharmendra Sapariya

Dr. Milind Yadav priyanka ahya... sathesh tk MIT PATEL Milind Yadav Jijo John Bhavin Mehta

3:58 PM 10/14/2020

Date:15/10/2020: Technical Session

1.3 Billion Vehicles on World's Roads now and 2 Billion By 2035

Main Pollutants: CO, HC, NO_x, Particulate matters

Source: http://www.greencareports.com/news/1093560_1-2-billion-vehicles-on-worlds-roads-now-2-billion-by-2035-report

Date: 16/10/2020: Technical Session

Meeting details

- Madhusudan Barot
- mehul thanki
- MIT PATEL
- Nimit Patel
- priyanka shyam sharma
- Samarth Shelat
- satheesh tk
- Yagnesh Patel

Date: 17/10/2020 Morning Session



A D PATEL INSTITUTE OF TECHNOLOGY
AUTOMOBILE ENGINEERING DEPARTMENT

PUC CERTIFICATE

Auto Emission Testing Centre Code: G0230035


Time of Testing: 10:30:38 Testing Centre Name: ADIT, NEW V. V. NAGAR

Fee Charged: Rs.20.0 Centre Address: NEW VALLABH VIVANAGAR, P. O BOX

Fee Charged: NO.52,VITTHAL UDYOOG NAGAR, ANAND,388121

In case of any complaint Please write to Transport Commissioner,Gujarat


Test Conducted By: PRINCIPAL, ADIT



TEST RESULT FOR RETROFITTING LPG VEHICLE

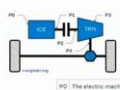
MEASURED VALUE	UNIT
CO	2.275 %
CO-CORRECTED	2.275 %
HC	547.0 PPM
CO2	5.15 %
CO	5.42 %
RPM	0.0
OIL TEMP	0.0 DEGREE CENTIGRADE

This is a computer generated certificate and does not require signature



Samarth Shelat

Date: 17/10/2020 Evening Technical Session



Mild Hybrid Architecture


P0 The electric machine is connected with the internal combustion engine through a belt, on the front and accessory drive (PSAC)

P1 The electric machine is connected directly with the crankshaft of the internal combustion engine

P2 The electric machine is inter-attached (through a belt) or interposed between the internal combustion engine and the transmission; the electric machine is decoupled from the ICE and it has the same speed of the ICE (or multiple of it)

P3 The electric machine is connected through a gear mesh with the transmission; the electric machine is decoupled from the ICE and it's speed is a multiple of the wheel speed

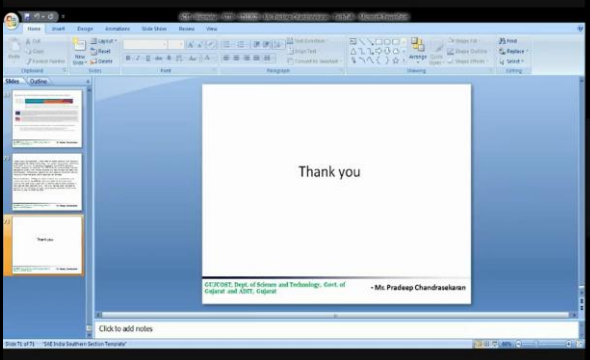
P4 The electric machine is connected through a gear mesh on the rear axle of the vehicle; the electric machine is decoupled from the ICE and it's located in the rear axle drive or in the wheels hub




Pradeep Chandrasekaran

GUJCOST, Dept. of Science and Technology, Govt. of Gujarat and ADIT, Gandhinagar

- Mr. Pradeep Chandrasekaran





Pradeep Chandrasekaran

GUJCOST, Dept. of Science and Technology, Govt. of Gujarat and ADIT, Gandhinagar

- Mr. Pradeep Chandrasekaran

News Paper: Sardar Gurjari

સી.વી.એમ. યુનિવર્સિટીની એડીઆઈટી કોલેજને GUJCOST, ગુજરાત સરકાર તરફથી ગ્રાન્ટની ફાળવણી

આણંદ, તા. ૪ થઈ છે. એમીશન્સ એન્ડ ગ્રીન ફ્યુઅલ ટેકનોલોજી" વિષય પર તા. ૧૨ થી ૧૭ ઓક્ટોબર ૨૦૨૦ દરમિયાન એસટીટીપીનું આયોજન થશે. બંને પ્રોગ્રામનાં આયોજન માટે મળેલી ગ્રાન્ટ માટે સી.વી.એમ.ના માનનીય અધ્યક્ષ ભીખુભાઈ પટેલ તથા અન્ય હોદ્દદારોએ એડીઆઈટી કોલેજને અભિનંદન પાઠવ્યા હતા અને GUJCOST નો આભાર વ્યક્ત કર્યો હતો.

આ સંદર્ભે પ્રથમ પ્રોગ્રામ કો-ઓર્ડિનેટર ડૉ. સંજય પટેલ અને પ્રો. યજ્ઞેશ ગાંભવાએ જણાવ્યું હતું કે તા. ૫ થી ૧૦ ઓક્ટોબર ૨૦૨૦ દરમિયાન "ઓટોમોબાઈલ એન્જિનિયરીંગ: બિગિનિંગ ઓફ ન્યૂ ઈરા" પર એસટીટીપી યોજાશે. બીજા પ્રોગ્રામ કો-ઓર્ડિનેટર ડૉ. નિમિત્ત પટેલ પ્રો. કુલદીપ પટેલના જણાવ્યા મુજબ "ઓટોમોટીવ એન્જિન,

5th October, 2020; Pg.3