

# REPORT

## “Current Trends of Power Electronics Applications on Electric Vehicles”

07/06/2021 to 11/06/2021



JULY 1, 2021

### Government Engineering College, Valsad

(Under The Directorate of Technical Education, Gujarat and Affiliated to GTU, Ahmedabad)

Coordinator: Prof. Harshal Sharadbhai Wani

Assistant Professor, Power Electronics

Electrical Engineering Department



# **Current Trends of Power Electronics Applications on Electric Vehicles**

## **07/06/2021 to 11/06/2021**

### **AICTE Training And Learning (ATAL) Academy sponsored FDP (Online)**

A 5-Days AICTE sponsored Online Faculty Development Program (FDP) was conducted from 07th to 11th June 29, 2021 by Electrical Engineering Department, Government Engineering College Valsad. Coordinator of the event was Prof. H. S. Wani. The event was coordinated by Prof. H. S. Wani, Prof. D. N. Tandel and the whole Electrical department. 200 faculties and research scholars participated in the event from various eminent engineering institutes across India of which 45 participants were from Gujarat and 155 participants from other states/UTs of India.




According to NITI Aayog report on EV, many countries have included EVs as an element of transportation policy, their responses have varied according to their stage of economic development, energy resource endowments, technological capabilities, and political prioritization of responses to climate change. While in India, a particular set of circumstances which are conducive to a sustainable mobility paradigm like relative abundance of exploitable renewable energy resources, high availability of skilled manpower and technology in manufacturing and IT software, infrastructure and consumer transition, and a universal culture that accepts and promotes sharing of assets and resources for the overall common good have created an opportunity for accelerated adoption of EVs over ICE vehicles. India has a lot to gain by converting its ICE vehicles to EVs at the earliest. Its oil-import bill would considerably reduce. ICE vehicles are a major contributor to pollution in cities and their replacement with EVs will improve air quality. India has over 170 million two-wheelers. If we assume that each of these vehicles uses a little more than half a litre of petrol per day or about 200 litres per year, the total amount of petrol used by such vehicles is about 34 billion litres. At ₹90 per litre, this would cost about ₹3 lakh crores. Assuming 50% of this as the cost of imported crude, one may save ₹1.2 lakh crores worth of imported oil. There is a real possibility of getting this done in the next five to ten years. This would however require a lot of research and innovations in the field of Electric Vehicles and a concerted effort by the Indian industry






to achieve global competition through acquiring the necessary scale and using cutting edge technology.

With the aim of helping in accelerating the possibility of this, the FDP was organized so that academicians from across the country can get a common platform for interaction where they can gain knowledge and get acquainted with the current research going on in the field of power electronics in Electric Vehicles.






Renowned national and international professors from top academic institutions like Agder University Norway, IISc Bangalore, IIT Delhi, IIT Bombay, and IIT Gandhinagar, SVNIT Surat, VJTI Mumbai and industry experts from top industries like Siemens India Ltd, Honeywell Automation, MathWorks, and Tektronix Ltd. delivered expert talks during various sessions of the program.

The details of speakers are as follows:

 <b>Dr. Mohan Lal Kolhe</b>	Professor, Agder University Norway	Ph.D. IIT Delhi
 <b>Dr. Bhim Singh</b>	Professor, IIT Delhi	B.E. University of Rurkee M.Tech. IIT Delhi Ph.D. IIT Delhi
 <b>Dr. B G Fernandes</b>	Professor, Electrical Engineering Department, IIT Bombay	B. Tech. NIT, Karnatak M.Tech., IIT, Kharagpur Ph.D. IIT Bombay

	<p>Professor, IISc Bangalore</p>	<p>B.Sc. M. G. University, Kerala M.Sc., M. G. University, Kerala Ph.D. CSIR-MIIST, Trivendrum</p>
<p><b>Dr. L Umanand</b></p>		
	<p>Assistant Professor, Chemical Engineering Department, IIT Gandhinagar</p>	<p>B. Tech. LDCE, Ahmedabad M.Tech. IIT, Kharagpur Ph.D. IIT Bombay</p>
<p><b>Dr. Nitin Padhiyar</b></p>		
	<p>Professor, Electrical Engineering Department, SVNIT Surat</p>	<p>B.E. MS University Baroda M.Tech. SVRCET, Surat Ph.D. SVNIT, Surat</p>
<p><b>Dr. V. A. Shah</b></p>		
	<p>Scientist, Honeywell Automation</p>	<p>B.E. NIT Kalikat M.Tech. Bangalore Ph.D. IISc, Bangalore</p>
<p><b>Dr. Abhijit Kulkarni</b></p>		
	<p>R&amp;D Engineer, Siemens India Ltd. Mumbai</p>	<p>B.E. WCE, Sangli M.Tech. NIT Warangal Ph.D. IIT Bombay</p>
<p><b>Dr. Mahendra Ghat</b></p>		



 <p><b>Dr. Amit Kumar Gupta</b></p>	<p>Assistant Professor, Assistant Professor, VJTI Mumbai</p>	<p>B. Tech., R. G. U., Bhopal M.Tech. IIT Bombay Ph.D. IIT Bombay</p>
 <p><b>Mr. Nitin Nigam</b></p>	<p>Senior Application Engineer, Tektronix India Ltd.</p>	
 <p><b>Mr. Dhiraj Jagtap</b></p>	<p>Application Engineer, DesignTech Solutions Pvt. Ltd., Ahmedabad</p>	<p>B. E. Automobile Engg. PGD, Automotive Electronics</p>
 <p><b>Mr. Rajkumar</b></p>	<p>Senior Application Engineer, VI Solutions Pvt. Ltd. Bangalore</p>	<p>B.E. Anna University</p>
 <p><b>Dr. K. L. Mokariya</b></p>	<p>Assistant Professor, Electrical Engineering Department, GEC Valsad</p>	<p>B.E. SVNIT Surat M.E. BVM Engg. College VV Nagar Ph.D. SVNIT, Surat</p>

## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

The schedule of the workshop was as below:

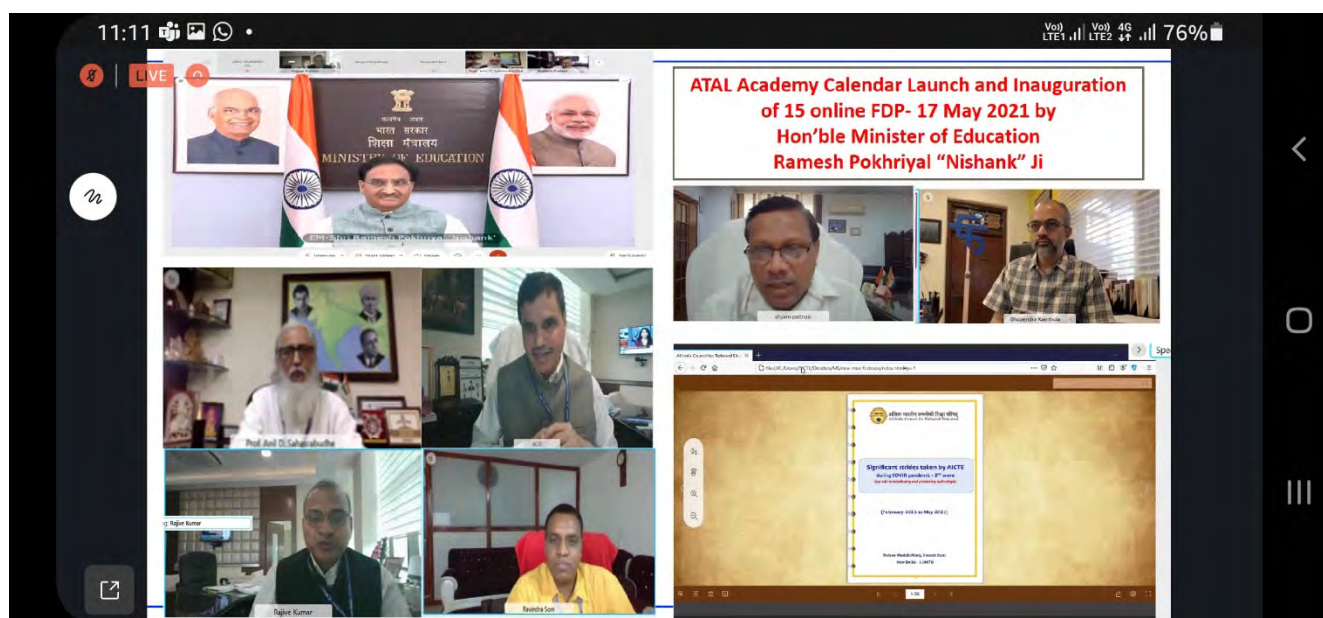
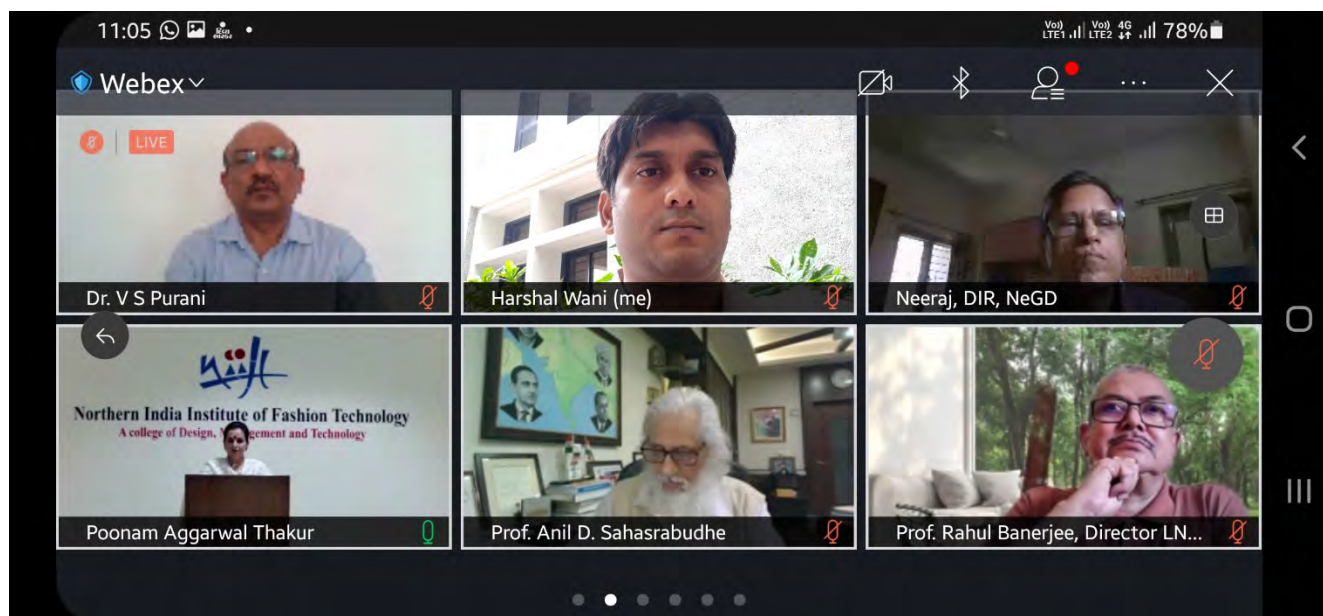
Date	Time Slot				
	10:00 AM to 12:00 PM	12:00 to 12:45	12:45 to 14:45	14:45 to 15:00	3:00 PM to 5:00 PM
Day - 1 07/06/21	Inauguration (9:30AM)	Lunch Break	Session – 2 Battery Parameters, Storage Design and its Charging for EVs/HEVs <b>Dr. Amit Kumar Gupta</b>	Tea Break	Session – 3 Power Electronics Modelling for EV with MATLAB <b>Mr. Dhiraj Jagtap</b>
	Session – 1 Historical Background and Introduction to EVs <b>Dr. V. A. Shah</b>				
Day - 2 08/06/21	Session – 4 Electric Vehicle <b>Dr. L. Umanand</b>		Industry Session – 5 Electric Vehicle Charging System and VSC HVDC System <b>Dr. Mahendra Ghat</b>		Session – 6 Role and the Context of the Ancient Tools in Modern Life <b>Dr. Nitin Padhiyar</b>
Day - 3 09/06/21	Industry Session – 7 Magnetics in PE converters for Electric Vehicles <b>Dr. Abhijit Kulkarni</b>		Session – 8 Motors for Electric Vehicles <b>Dr. B. G. Fernandes</b>		Session – 9 Renewable Based EV Charging Station: Architecture and Energy Management <b>Dr. Mohan Lal Kolhe</b>
Day - 4 10/06/21	Session – 10 Ultra-Capacitors for EVs <b>Dr. V. A. Shah</b>		Industry Session – 11 Understanding end to end solutions for Electric Mobility <b>Mr. Nitin Nigam</b>		Session – 12 Selection and Sizing of Solar PV Plant for EV charging <b>Dr. K. L. Mokariya</b>
Day - 5 11/06/21	Session – 13 Chargers and Charging Station for Electric Vehicles <b>Dr. Bhim Singh</b>		Industry Session – 14 Power Train Design: DC-AC Converter for EV <b>Mr. Rajkumar</b>		Test, Feedback and Valediction

The program was organized and coordinated by Prof. Harshal Wani, Assistant Professor, Power Electronics and Prof. Devendra Tandel, Assistant Professor Electrical Engineering. Dr. V. S. Purani, the principal of GEC Valsad had welcomed all the participants and experts of the FDP and thanked AICTE for the great opportunity given to GEC Valsad for conducting the online FDP starting from 07th June 2021.

All India Council for Technical Education (AICTE) has approved GEC Valsad to provide training to national level professors in emerging technical field for the first time. The proposal made by Valsad was deemed competent and financial assistance was given in this regard. The program was organized by Prof. Harshal Wani in collaboration with the expert professors at the institute and the professors of the nationally renowned institutes like IITs, NITs and IISc. At the very moment of the announcement of this training program, applications were made by professors from all over the country and registration were full in minutes.

## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

Dr. V. S. Purani, the principal of GEC Valsad had addressed and welcomed all the coordinators and participants of 43 ATAL academy, AICTE sponsored online FDPs starting on 07th June 2021 across India in the centralised inauguration program organized by AICTE. Some glimpses of the common inaugural of 43 FDPs by AICTE are as below.





# ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

11:15 75%

List of 43 Institutes with FDP Details

Sr. No.	Title of FDP	Institute Name	Institute_District
1	EMERGING TRENDS IN INTERNET OF THINGS	Acropolis Institute Of Technology And Research - AITR,	Indore
2	Creating Innovation & Startups with Internet of Things	Institute of Technology & Management	Gwalior
3	Reinforcement Learning an It's Applications	PDPM Indian Institute of Information Technology, Design and Manufacturing Jabalpur	Jabalpur
4	Current Trends of Power Electronics Applications in Electric Vehicles	Government Engineering College Valsad	Valsad
5	VLSI Design, Verification and Testing	Government Engineering College, Rajkot	Rajkot
6	Personal Effectiveness	International Management Institute Kolkata	Kolkata
7	Application of Computers in Biology	Galgotias University	Gautam Buddha Nagar
8	DESIGN THINKING IN 3D PRINTING	IIT(BHU) Varanasi	Varanasi
9	Deep Learning and Computer Vision	KAMLA NEHRU INSTITUTE OF TECHNOLOGY	Sultanpur
10	Industry Oriented FDP on Artificial Intelligence	MSME-Technology Development Centre (PPDC), Meerut	Meerut

Slide 8

11:30 72%

Webex

LIVE

Dr. V S Purani

bhawana

AICTE HQ (host)

Ravindra Soni

Dr Manoj Tiwari

Dr. C.H. Vithalani



The brochure of the FDP is as below.

One Week Online FDP  
on  
“Current Trends of Power Electronics  
Applications in Electric Vehicles”  
07/06/2021 to 11/06/2021

**Organized by**

 **GOVERNMENT ENGINEERING COLLEGE  
VALSAD**  
ELECTRICAL ENGINEERING DEPARTMENT

**Sponsored by**

AICTE Training and Learning (ATAL) Academy,  
AICTE, New Delhi



**Contact Us**

Prof. H. S. Wani      Prof. D. N. Tandel  
Assistant Professor      Assistant Professor  
Mo. 9714942242      Mo. 9825997422  
email: [atal.fdp.gecvalsad@gecv.ac.in](mailto:atal.fdp.gecvalsad@gecv.ac.in)



**GOVERNMENT ENGINEERING COLLEGE VALSAD**  
(Under The Directorate of Technical Education, Gujarat and Affiliated to GTU, Ahmedabad)

Tithal Road, Near Sanskar Kendra  
Opposite B. K. M. Science & Arts College  
Valsad – 396001

Phone : 02632-241960      Email: [principal@gecv.ac.in](mailto:principal@gecv.ac.in)  
website : [www.gecv.ac.in](http://www.gecv.ac.in)

#### About Institute

Government Engineering College Valsad is established in year 2004. The institute aims to provide quality education for professional courses that makes students knowledge with the subject domain and worthy citizen as well. This institute is recognized by AICTE, New Delhi and Institute of Engineers (India). The college is administrated by Directorate of Technical Education, Gujarat State, and is affiliated with Gujarat Technological University.

#### About Department

The Department of Electrical Engineering (EE) is one of the major Departments of GECV since its inception in 2006. The department is active in teaching and research in major areas of Electrical Engineering

##### Department Vision:

To become a front-runner in bringing out globally competent electrical engineers, innovators, researchers, and entrepreneurs and thereby contribute value to the knowledge-based economy and society.

##### Department Mission:

- To offer and adapt for good quality Under-Graduate programs in electrical engineering.
- To provide state-of-the-art resources that contribute to achieving excellence in teaching-learning, research and development activities.
- To bridge the gap between industry and academia based on industrial and societal needs.
- To provide suitable forums to enhance the creative talents of students and faculty members.
- To inculcate moral and ethical values among the faculty and students.

#### About FDP

With diminishing conventional resources and rising pollution due to conventional vehicles, the need for adapting towards greener alternatives of transport has become utmost important. With the development of suitable motors and controllers, electric vehicles are a good option for the same. Electric vehicles are these days available in almost all classes of vehicles Power Electronics plays a major role in the operation and control of EVs. This introductory level FDP is planned and designed to make the participants aware of the current trends of research and development in electric vehicles. A mix of theoretical and hands-on sessions in the FDP will help participants understand the ongoing academic research and industry practices and encourage them to explore research problems in the field of PE Applications for EVs.

##### Who can apply?

- UG/PG/Diploma Teaching Faculties
- Researchers
- Industry persons
- PG/Ph.D. Research Scholars

##### List of Tentative Topics

- Introduction to EVs and Batteries
- Overview of Electric Motors for EVs
- Power Electronics Converters for EVs
- Future Scope of WBG Devices in EVs
- Electric Drives for Electric Vehicles
- Battery Charging Algorithms for EVs
- SRMs for Electric Vehicles
- Electric Vehicles: Challenges & Opportunities
- Charging Infrastructures for EVs
- Battery Chargers and BMS for EVs
- Magnetics in PE Converters for EVs
- Understanding Solutions for Electric Mobility.
- Penetration of EV on Indian Grid

#### List of Experts

- Dr. Mohan Lal Kolhe, Agder Uni. (Norway)
- Dr. L. Umanand, IISc Bangalore
- Dr. Bhim Singh, IIT Delhi
- Dr. B. G. Fernandes, IIT Bombay
- Dr. Amit Kumar Jain, IIT Delhi
- Dr. V. A. Shah, SVNIT, Surat
- Dr. Amit Kumar Gupta, VJTI, Mumbai
- Mr. Nitin Nigam, Tektronix India
- Dr. Abhijit Kulkarni, Honeywell, Bengaluru
- Dr. Mahendra Ghat, Siemens India
- Dr. K. L. Mokariya, GEC Valsad
- Design Tech Pvt. Ltd. (MATLAB)

#### How to Register?

- Online registration and application through ATAL Academy AICTE web Portal through <https://www.aicte-india.org/atal>.
- **Note: No Registration Fee.**

#### Organizing Committee

##### Patron

**Dr. V. S. Purani**  
Principal

**Dr. K. L. Mokariya**  
Asst. Prof. & Head Electrical

##### Coordinator

<b>Prof. H. S. Wani</b> Assistant Professor Power Electronics	<b>Prof. D. N. Tandel</b> Assistant Professor Electrical Engineering
---	--

# ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

The list of participants are as follows:

Sr	Name	Email	Phone	Institute Name
1	Dr. Balasubbareddy M	balasubbareddy_eee@cbit.ac.in	8074400141	Chaitanya Bharathi Institute of Technology(Autonomous), Hyderabad
2	Mr. Dattaguru mohanlal sawardekar	dattaguru1978@gmail.com	9226314055	Don Bosco college of engineering fatorda Margao Goa
3	Mr. SUBHANKAR MUKHERJEE	subha9891@gmail.com	9432856802	Supreme Knowledge Foundation Group of Institutions
4	Mr. N James Dinakaran	james.eee239@gmail.com	9989747392	Loyola Polytechnic (YSRR), PULIVENDULA
5	Mrs. Ujwala Malkhandale	ub.malkhandale@gmail.com	9960051499	Priyadarshini Indira Gandhi College of Engineering Nagpur
6	Mr. Chandramani Mahapatra	chandramanimahapatra12@gmail.com	8249259590	Government Polytechnic Nabarangpur
7	Mrs. Reshma Mathew	reshmathew123@gmail.com	8547641584	St.Thomas College of Engineering and Technology, Chengannur
8	Mrs. Neha Shrivastava	nehashrivastava88admissionrgi@gmail.com	8965951933	Radharaman Engineering College
9	Mr. RAJA GURU B	rajaguru.sb@gmail.com	9600285635	Maharashtra Institute of Technology
10	Dr. T.LAKSHMIBAI	tlakshmibai@kanchiuniv.ac.in	7708259922	Sri Chandrasekharendra Saraswathi Viswa Maha Vidyalaya
11	Dr. Nilesh V. Shah	nilesh.shah@scet.ac.in	8320450916	Sarvajanik College of Engineering and Technology
12	Mr. Shashank Dadhich	sh323001@gmail.com	7976130904	Arya College Of Engineering & IT
13	Mr. Piyush Sharma	piyushsharma034@gmail.com	7820983267	SS Polytechnic College, Udaipur, Rajasthan
14	Mr. HIMANSHU MOHAPATRA	himanshumohapatra2014@gmail.com	8763950277	GOVT.POLYTECHNIC KENDRAPARA
15	Mr. Manish Kumar	esr192627@ces.iitd.ac.in	9386842705	Indian Institute of Technology Delhi
16	Mr. DHEERAJ KUMAR DHAKED	ddhakar9@gmail.com	9785221804	RAJASTHAN TECHNICAL UNIVERSITY KOTA
17	Mr. Meruva Bhaskar Reddy	mbreddyyeee@ksrmce.ac.in	9160995555	KSRM College of Engineering
18	Mrs. Chintala Venkatesh	venki7c@gmail.com	8978090678	Mohamed Sathak A J College of Engineering, Chennai
19	Mrs. Supriya	supriya.sinha@sal.edu.in	9913770602	SAL Institute of technology and engineering research
20	Mr. CHAUDHARI PARESHKUMAR SUKHABHAI	pareshchaudhariee@gmail.com	9429668043	Bhailalbhai and Bhikhabhai Institute of Technology, Vallabhvidyanagar
21	Dr. V V P Kumar Tatavarathi	pavankumart99@gmail.com	9885063119	KG Reddy College of Engineering and Technology
22	Mr. Bodapudi Mahesh Kumar	mahesh.bodapudi801@gmail.com	8019893676	J.B Institute of engineering and technology
23	Mr. Subhajit Roy	subhajitroy.sit@gmail.com	9126082162	Siliguri Institute of Technology
24	Mr. PURUSHOTHAMAN R	purusotheeee@gmail.com	9442769067	KONGUNADU COLLEGE OF ENGINEERING AND TECHNOLOGY
25	Mr. SIVA SUBRAMANIAN P	sivasubramanian.v.p@gmail.com	7639112777	SSM INSTITUTE OF ENGINEERING AND TECHNOLOGY
26	Mr. GAJAWADA PRANAY KUMAR	pranaykumarg.eeegnit@gniindia.org	9515295118	Guru Nanak Institute of Technology
27	Mr. K.G.SRINIVASAN	kgsrinivasanped@gmail.com	9629086100	MAHENDRA ENGINEERING COLLEGE for WOMEN
28	Dr. A.SIVAKUMAR	arunsiva75@gmail.com	8122572611	Panimalar Engineering College
29	Mr. Sushil Kumar	vermasushil05@gmail.com	9643689902	Government Polytechnic Education Society, Meham (Rohtak)
30	Mr. Ravisankar kampara	ravisankar.moon@gmail.com	9701885022	Lendi institute of engineering and technology
31	Mrs. SUBHA LAKSHMI	subhalakshmin@skcet.ac.in	9384919467	SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
32	Miss M.Poornima	poorni3710@gmail.com	9487289872	Christ the King Engineering College
33	Mr. Praveen M	pranim22315@gmail.com	8610327525	Annamalai University
34	Mr. Baskaran S	baskaran1985@gmail.com	9994332578	Jeppiaar Institute of Technology
35	Mr. Raghavendran	raghavagi@gmail.com	9486192978	SRM Institute of Science and Technology

## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

36	Dr. Aadesh Kumar Arya	adeshkumararya1982@gmail.com	7206897365	College of Engineering Roorkee
37	Mr. NARSAIAH KUNDHURI	kundhuri.narsaiah@jits.ac.in	8328074725	JYOTHISHMATHI INSTITUTE OF TECHNOLOGY AND SCIENCE
38	Mr. CH. SAJAN	sajan4315@gmail.com	9493533553	Jyothishmathi Institute of Technology and Science
39	Miss Sudagoni samatha	Sudagoni.samatha@jits.ac.in	9000191878	Jyothishmathi institute of technology and science
40	Mr. Sagar Savaliya	sagarsavaliya.kse@gmail.com	8140019132	Khyati School of engineering
41	Mr. RAJASEKHAR GORTH	rajasekhar.gorthi@gmail.com	9490232052	J.B.Institute of Engineering and Technology
42	Mr. UDAYABHASKER BONAGIRI	bonagiri.udayabhaskar@jits.ac.in	9121095359	JYOTHISHMATHI INSTITUTE OF TECHNOLOGY AND SCIENCE
43	Mr. TANMOY DEY	tanmoy.jgec.dey@gmail.com	7044003528	Baghmundi Govt Polytechnic
44	Mrs. Kanthimathi	rvkmathi86@yahoo.co.in	9677718711	College of Engineering Guindy, Anna University, Chennai
45	Mrs. SREEJA C	csreeja@amaljyothi.ac.in	8281645602	Amal Jyothi College of Engineering
46	Dr. Mukesh kumawat	mbkumawat12@gmail.com	7000098351	PRAVARA,(PRES) SVIT NASHIK
47	Dr. GUNDALA SRINIVASA RAO	phdsrinivasarao@gmail.com	7989347879	CMR College of Engineering & Technology
48	Dr. Mini Rajeev	mini.rajeev@fcrit.ac.in	9820893225	Fr.C.Rodrigues Institute of Technology
49	Miss Miryalkar Divya	divyamiryalkar123@gmail.com	9502718511	Jyothishmathi Institute Of Technology And sciences
50	Mrs. Karpagam V	karpagam_84@drmcet.ac.in	9944371283	Dr.Mahalingam College of Engineering and Technology
51	Mr. PRATIK DASHARATH RAHATE	pratikrahate05@gmail.com	9930227956	St Francis Institute of Technology (Engineering)
52	Dr. Madhu S	madhus@bnmit.in	9886496914	B N M Institute of Technology
53	Mr. Rakesh MN	mn.rakesh@yahoo.com	8880164513	RNS Institute of Technology
54	Mrs. Neethu v s	vsnm@mcehassan.ac.in	9739942483	Malnad college of engineering
55	Dr. Ranjan Kumar jena	ranjankjena@gmail.com	9437040077	College of Engineering and Technology
56	Mrs. Monika Dabkara	2020ree9020@mnit.ac.in	8982881481	MNIT
57	Mr. Anandraj	anandraj@kletech.ac.in	9739463422	KLE Technological University, Hubballi
58	Mr. Parmeshwar	pkjrpr@gmail.com	9413149990	Vivekananda Global University
59	Mr. Dileep Kumar shu	dileepsahu@axiscolleges.in	9131645423	Axis institue of technology and managment kanpur
60	Mr. Kuncham Sateesh Kumar	kunchamk@srmist.edu.in	9441274524	SRM Institute of Science Technology Kattankulathur
61	Mr. Souvik Mallik	souvik.211190@gmail.com	8777495894	Dream Institute of Technology
62	Mr. Pankaj Dubey	shripankaj.d@gmail.com	9981770382	SAGAR INSTITUTE OF RESEARCH AND TECHNOLOGY-Excellence
63	Mr. J. Dilli Srinivasan	dillirj@srmist.edu.in	9843455451	SRM Institute of Science and Technology
64	Mrs. Shreelakshmi N	sreelakshmin.epe20@rvce.edu.in	9844722571	RV College of engineering
65	Mr. Mohammad Zaid	mohammad.zaid@zhcet.ac.in	7895932115	Aligarh Muslim university
66	Mr. PIYUSH SHARMA	erpiyushsharma034@gmail.com	8005872617	SS Polytechnic College Udaipur Rajasthan
67	Mr. Abhishek Jain	abhishekjain.281988@gmail.com	9389660946	Babu Banarsi Das National Institute of Technology and Management
68	Mr. Prashant Kadi	prashant07ee@gmail.com	8867187561	B.L.D.E.A's V P Dr. P.G.Halakatti College of Engineering and Technology VIJAYAPUR
69	Mrs. Indhulekha Jayachandran	indhulekha@vidyatcklrm.ac.in	7594806582	Vidya Academy of Science and Technology Technical Campus
70	Miss Radhika Somakumar	radhikasomakumar.eee@act.edu.in	7550141061	Agni College of Technology
71	Dr. Ranjith kumar Gatla	ranjith.gatla@gmail.com	9966959593	Institute of Aeronautical Engineering
72	Mrs. Ashwini A	ashwinia@bnmit.in	9900212311	BNM Institute of Technology
73	Mr. Varade Amol Sopan	amolvarade52@gmail.com	9225920043	Amrutvahini College of Engineering Sangamner
74	Mr. THALLA VISHNU	thallavishnu2015@gmail.com	9014636909	VAAGDEVI COLLEGE OF ENGINEERING, WARANGAL

## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

75	Mr. BIBHUDATTA PAIKARAY	bibhupaikaray1979@gmail.com	9937199345	GITA, BHUBANESWAR
76	Mr. Komal Kumar	Er.komalksharma@gmail.com	9983900066	Rajdhani engineering college Jaipur
77	Mrs. TEJASWINI G V	tejaswini.gv@kssem.edu.in	9980468496	K S SCHOOL OF ENGINEERING AND MANAGEMENT
78	Miss Swetha G C	swethagc@gmail.com	7899393893	Shadan women's College of Engineering and technology
79	Mr. MANISH S PATEL	mshp01@ganpatuniversity.ac.in	9879074964	GANPAT UNIVERSITY-U.V.PATEL COLLEGE OF ENGINEERING
80	Mr. Ravi Chandrakant Bhavsar	rcb01@ganpatuniversity.ac.in	9998727817	U.V. Patel College of Engineering
81	Mr. Sabah VS	sabah@cect.ac.in	7736391224	CECTL
82	Mr. VIPIN VALSAN	vipin.valsan@manipal.edu	9945652203	MANIPAL INSTITUTE OF TECHNOLOGY
83	Mr. S.Rajendran	s.rajendran@klu.ac.in	9629381701	Kalasalingam Academy of Research and Education
84	Dr. Rajesh	k.rajesh@klu.ac.in	9842339674	Kalasalingam Academy of Research and Education
85	Mrs. GAYATRI MOHAPATRA	gayatrim79@gmail.com	9437194551	ITER
86	Mr. K.VIJAYAKUMAR	k.vijayakumar@klu.ac.in	9600893226	Kalasalingam Academy of Research and Education
87	Mrs. Chetana Ravindra Mishra	chetana.mishra@bapugkv.ac.in	8849994372	Shankersinh Vaghela Babu Institute of Technology
88	Mr. P. RAJAN BABU	rajanbabu.306@gmail.com	9963204306	SVS GROUP OF INSTITUTIONS
89	Mr. SUNIL PRAHALADBHAI PATEL	sunil.patelee@bapugkv.ac.in	9925288090	Shankersinh Vaghela Babu Institute Of Technology
90	Mr. PRASHANT BHARATRAO PAWAR	prashantpawar450@gmail.com	7709807275	S.B.Patil college of Engineering , Indapur , Pune , Maharashtra
91	Dr. Ramaprabha	ramaprabhasuresh@gmail.com	9962392345	Sri Sivasubramaniya Nadar College of Engineering
92	Mr. VIJAYASARATHI.N	nveeyes1@gmail.com	9994466626	CHETTINAD COLLEGE OF ENGINEERING AND TECHNOLOGY
93	Mrs. V VIJAYA LAKSHMI	vijayalakshmiv@vjit.ac.in	9493020312	Vidya Jyothi Institute of Technology
94	Mr. VASANTHPRAKASH M	vasanth361993@gmail.com	9597000632	CHETTINAD COLLEGE OF ENGINEERING AND TECHNOLOGY
95	Mr. Daravastu Srinivas	ds@vjit.ac.in	7396356323	Vidya Jyothi Institute of Technology
96	Mrs. Sudharani Potturi	chekuri.rani@gmail.com	9916953860	REVA UNIVERSITY
97	Dr. A. RAMKUMAR	a.ramkumar@klu.ac.in	9486286843	Kalasalingam Academy of Research and Education
98	Mr. Sandeep Sarjerao Godhade	sandeep.godhade@sanjayghoda watuniversity.ac.in	9527715468	Sanjay Ghodawat University, Kolhapur
99	Mr. S.F SYED VASIYULLAH	sf.syedvasiyullah@aalimec.ac.in	8838261371	AMS COLLEGE OF ENGG
100	Mr. Anil Bodhe	anilindore1987@gmail.com	8668703019	PICT Pune
101	Mr. T. SRIANANDA GANESH	Srianandceg19@gmail.com	9994274713	ST. JOSEPH'S COLLEGE OF ENGINEERING
102	Dr. BALAJI	balajim@ssn.edu.in	9444362745	SRI SIVA SUBRAMANIYA NADAR COLLEGE OF ENGINEERING
103	Mr. SARAVANAN S	ssaravanan@kkwagh.edu.in	9791301215	kk wagh institute of engineering education and research
104	Mr. Naveed Suhail	navsuh@gmail.com	7652046335	RVR&JC College of Engineering
105	Dr. Logavani K	vani.tulips@gmail.com	9894173715	Government College of Engineering
106	Dr. B.Jyothi	jyothiee@kluniversity.in	8099809939	KLEF Deemed to be university
107	Mr. M KARTHICK	saikarthick023@gmail.com	9894966403	SVS College of Engineering
108	Mr. DEVA RAMESH BABU	rameshbabu.ieee@gmail.com	9441144741	NALLA NARASIMHA REDDY EDUCATION SOCIETY'S GROUP OF INSTITUTIONS
109	Mrs. swathi	swathi2710@gmail.com	9948790804	nalla narasimha reddy educational societys group of institutions
110	Miss Aeasha	aeashamahmood26495@gmail.c om	9381972020	Nalla narsimha reddy engineering college
111	Dr. S. Manoharan	manoharan.s@klnce.edu	9715585524	K.L.N. College of Engineering
112	Mr. kotte sowjan kumar	sowjankumar_k@pace.ac.in	9866957469	PACE IT &S
113	Mr. Prasad Patil	prasadpatil@orchidengg.ac.in	8380050712	N K orchid college of Engg. & Technology Solapur



## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

114	Mrs. Dipali Pramod Wadkar	dipawadkar@gmail.com	9922257298	WALCHAND INSTITUTE OF TECHNOLOGY SOLAPUR
115	Mr. ELAM CHEREN	elamcheren@gmail.com	9994507292	Sri Krishna College of Engineering and Technology
116	Mr. M YERRI VEERESH	saiveerushamu8@gmail.com	9705765566	Santhiram Engineering College
117	Dr. G. ANNAPURNA	gootyproj@gmail.com	9908667470	G. narayanamma Institute of Technology and Science (for Women)
118	Mr. Irfan Isak Mujawar	irfanmujawar@orchidengg.ac.in	9970896478	Nagesh Karajagi Orchid College of Engineering and Technology, Solapur
119	Mr. SHIBIN D H	dhshibin@gmail.com	9746222817	College of engineering Muttathara
120	Mr. Sumant Rajiv Lokhande	sumant2260@gmail.com	7972803564	Dr.D. Y. Patil College of Engineering Salokhenagar
121	Dr. R K Kumawat	rkkumawat.phd@rtu.ac.in	9887975587	I K Gujral Punjab Technical University
122	Mr. KATHIRVEL.P	kathirkpc@gmail.com	9965023178	Dr.Mahalingam College of Engineering and Technology,Pollachi
123	Dr. SIVAGAMA SUNDARI M S	ms_sivagamasundari@amrita.edu.in	8760595594	AMRITA COLLEGE OF ENGINEERING AND TECHNOLOGY, NAGERCOIL
124	Mr. T.N.RAGHAVENDRA	raghav3140@gmail.com	9538155891	UVCE
125	Mr. Anupam Agarwal	anupamagarw@gmail.com	9588986785	Anand ICE, Jaipur
126	Miss Indhumathi G	indhumathig24@gmail.com	8838217651	MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY
127	Mr. S.IMMANUEL EBENEZER	immanuelebenezers.eee@aiht.ac.in	9841252230	Anand Institute of Higher Technology
128	Miss B.GAYATHRI	gayathri1695@mountzion.ac.in	9786686198	Mount Zion College of Engineering And Technology
129	Dr. Palanisamy R	krspalani@gmail.com	9600158636	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
130	Mr. SELVAKUMAR R B	rbskeee@gmail.com	9942483127	Dr.N.G.P. INSTITUTE OF TECHNOLOGY
131	Mr. Patel Rajan Vljay	rajanpatel7784@gmail.com	7057774554	Gouo Gobind Singh College of Engineering & Research Center
132	Dr. T. M. Thamizh Thentral	thamizht@srmist.edu.in	9444202444	SRM Institute of Science and Technology
133	Mrs. sumanjali chundu	195061001@kluniversity.in	9491663693	KLUniversity
134	Mr. T.C.SUBRAMANYAM	tcsubramanyam@gmail.com	9885180225	Nalla Narasimha Reddy Education Society's Group of Institutions
135	Dr. K.SELVAKUMAR	selvakuk@srmist.edu.in	9843389383	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
136	Dr. Chandrakant Rathore	chandrakantrathore@sbjit.edu.in	9537667415	S.B.Jain Institute of Technology, Research and Management Nagpur
137	Mr. Biswamoy Pal	biswamoy.paul@jiscollege.ac.in	6290936050	JIS College of Engineering
138	Mr. Dilip Moyal	dilip.moyal@marwadieducation.edu.in	9998062046	Marwadi University, Rajkot
139	Mr. Kashyap Mukesh Gandhi	kashyapeee@gmail.com	9408828136	TOLANI F. G. POLYTECHNIC
140	Mr. Subhajit Kar	subhajit.kar@iemcal.com	9002299226	Institute of Engineering and Management (IEM)
141	Dr. Leena G	leenag.fet@mriu.edu.in	9968281639	Manav Rachna International Institute of Research and Studies
142	Dr. Kirubakaran D	kiruba_d@yahoo.com	9840009248	St. Joseph's Institute of Technology
143	Mr. P M ANSHO	anshoprof@gmail.com	8940644705	Annai Vailankanni College of Engineering
144	Mr. DONGARI VAMSHY	vamshy.office@gmail.com	9849255844	Mahatma Gandhi Institute of Technology
145	Mrs. ARCHANA SHARMA	archana_9114@yahoo.com	9817406994	Rajkiya Engineering College Bijnor
146	Mr. Dheeraj Singh	dheerajpbh@gmail.com	8299280569	Rajarshi Rananjay Sinh institute of management and Technology Amethi
147	Mr. KONGA RAKESH	rakeshkonga@gmail.com	9866432644	Anurag University
148	Mrs. P.ARUNA	arunap.eee@aiht.ac.in	9884379086	Anand Institute of Higher Technology
149	Dr. D MOHAN REDDY	mohanreddyeee@anurag.edu.in	8106557834	Anurag University
150	Mr. Kancha Rajender	rajenderee@cvsr.ac.in	9347406656	Anurag University
151	Mr. KOTI REDDY GOGULAMOODI	gkreddyeee@gmail.com	9160496496	PACE INSTITUTE OF TECHNOLOGY AND SCIENCES
152	Mrs. KUNCHE GOWTAMI	gowthami75.k@gmail.com	9912378902	GIET

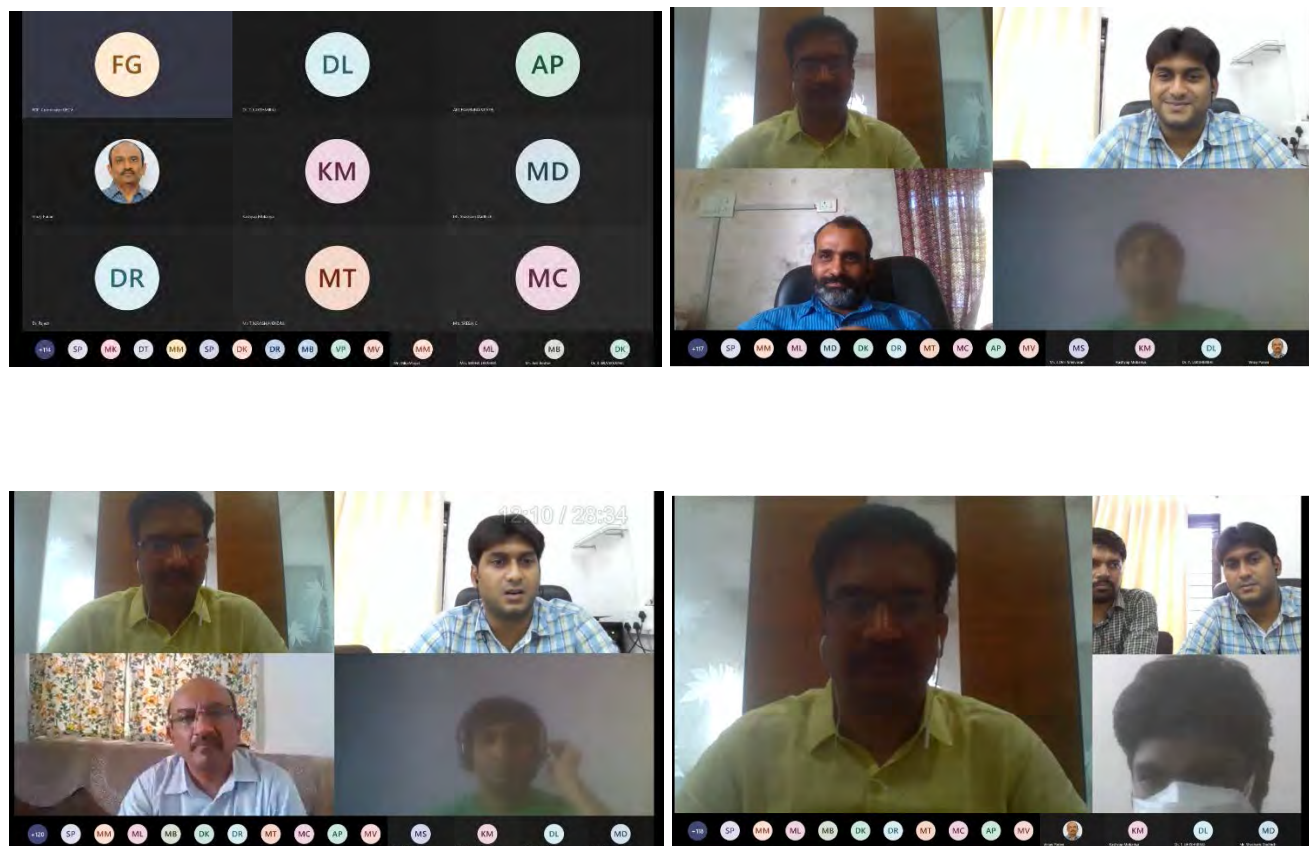
# ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

153	Mr. Teja Sreenu Tadvika	tteja.teja@gmail.com	9640726638	K L E F (Deemed to be University)
154	Mr. J. Kishore Babu	jkishore220@gmail.com	9951970633	Nalla narisimha reddy education group of institutions
155	Dr. RAMESHKUMAR K	rameshkumar@drmcet.ac.in	6374434361	Dr. Mahalingam College of Engineering and Technology
156	Mr. SUMIT RAJ	sumitraj165@gmail.com	8981105842	NIT PATNA
157	Mr. Pushpendra Kumar Sharma	sharma.pkskit@gmail.com	9414779883	Stani Memorial College of Engineering & Technology, Phagi, Jaipur
158	Mr. MANJAPPA N	manjappan2331@gmail.com	9739359832	UVCE
159	Mr. PUNIT SOMPURA	punitsompura.ee@bitseducampus.ac.in	8140067050	BABARIA INSTITUTE OF TECHNOLOGY
160	Dr. Akshaya Kumar Pati	akshaya.patifet@kiit.ac.in	8260946353	Kiit Deemed to be University
161	Mr. ASHISH AGARWAL	ashish.agarwal@glbajajgroup.org	9643637984	G. L. Bajaj Group of institutions, Mathura
162	Mr. SYED FAHAD HASHMI	fahad.nitp@gmail.com	9297745980	NIT Trichy
163	Mr. NIRAV D. MEHTA	ndmehta@vgecg.ac.in	9824523813	Vishwakarma Government Engineering College, Chandkheda - 382424
164	Mr. Vipul Gordhanbhai Patel	vgpatel@vgecg.ac.in	9408783478	Vishwakarma Government Engineering College
165	Mr. SHAKTISINH GOHIL	shaktipower1210@gmail.com	9924823423	L.E.COLLEGE, MORBI
166	Mr. Harshal Sharadbhai Wani	hwani2288@gmail.com	9714942242	Government Engineering College Valsad
167	Mr. Samir H Trivedi	sht@lecollege.ac.in	9825246353	Lukhdhirji Engineering College
168	Mr. TEJASKUMAR RAMANBHAI PATEL	trp.gecg@gmail.com	9426389610	L. D. College of Engineering
169	Mr. MEHULSINH GHANSHYAMSINH JADEJA	mgjadeja@vgecg.ac.in	9033963325	VGEC, CHANDKHEDA
170	Mr. Devendra Tandel	dntgecv@gmail.com	7016070572	Government Engineering College Valsad
171	Mr. CHAUDHARI MAULIKKUMAR ARVINDBHAI	maulik.8828@gmail.com	9726888231	GOVERNMENT ENGINEERING COLLEGE BHUJ
172	Mr. Dhruv Vitthal Das Garasiya	dvgarasiya@vgecg.ac.in	9712389169	Vishwakarma Govt. Engg. College, Ahmedabad
173	Mr. snehal purani	4990sunny.purani@gmail.com	9558826687	Shri K.J. Polytechnic, Bharuch
174	Mr. PULINKUMAR JITENDRAKUMAR PUROHIT	pulin.purohit88@gmail.com	9574737182	VISHWAKA GOVERNMENT ENGINEERING COLLEGE, CHANDKHEDA, AHMEDABAD
175	Mr. Vilash Chaudhari	vilash5170@gmail.com	9979511192	Government Engineering College Bhuj
176	Mr. HARDIK MOHANBHAI AGRAVATT	hmavt11@gmail.com	9099807984	SHRI K J POLYTECHNIC, BHARUCH
177	Mr. RAJNIKANT NATUBHAI RATHOD	rathod.45@gmail.com	7984409094	L.E.COLLEGE, MORBI
178	Dr. S. EDWIN JOSE	edwinjose@psr.edu.in	9442267948	P.S.R Engineering College Sivakasi
179	Mr. Prof. K.B. Rathod	profkbrathod@gmail.com	9099063020	Government Engineering College rajkot
180	Mr. HARSHAL BABULAL SHARMA	hbs.gpv@gmail.com	7359261266	GOVERNMENT POLYTECHNIC VALSAD
181	Mr. VIGNESHBHAI JAYANTILAL PATEL	vigneshpatel03@gmail.com	9909948277	GOVERNMENT POLYTECHNIC VALSAD
182	Mr. BHAVESHKUMAR PARSHOTTAMBHAI GOLAKIYA	bpg1.gpv@gmail.com	9712349298	Government Polytechnic - Valsad
183	Mr. Hitarth Buch	hitarthbuch@gecrajkot.ac.in	9824136468	L. E. College, Morbi
184	Dr. Prasiddh Trivedi	prasiddh.trivedi@rait.ac.in	9769317660	RAIT
185	Mr. Archankumar Bharatbhai Patel	archanbpatel@gtu.edu.in	8160495117	Dr. S. & S. S. Ghandhy Government Engineering College, Surat
186	Mr. Tejash Kumar G Naik	tgngec@gmail.com	9904993625	Dr S and SS Ghandhy Government Engineering College Surat
187	Miss Rupal Vinodbhai Patel	rupzpatel11@gmail.com	9725671214	Dr. S. & S. S. Ghandhy Government Engineering College, Surat

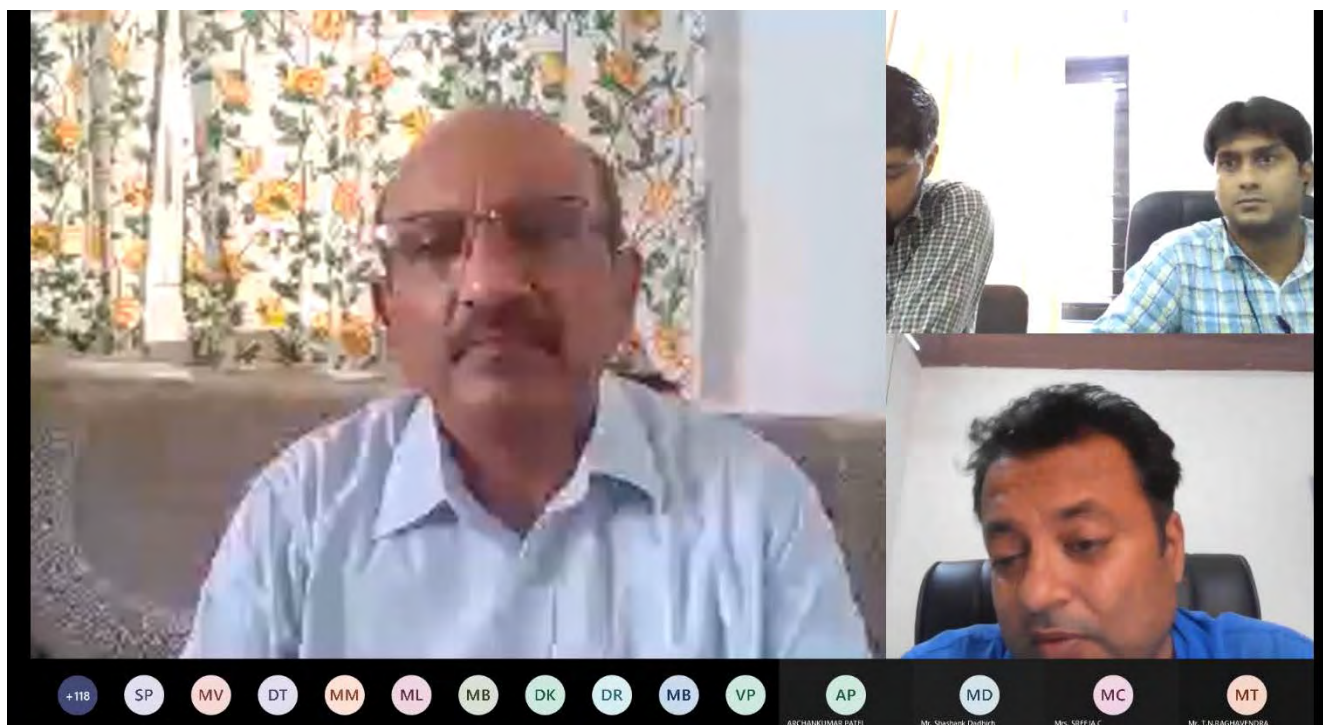
## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

188	Mr. Sunil Patel	patel_sunil5@gtu.edu.in	9898073753	Dr. S. & S. S. Ghandhy College of Engineering & Technology, Surat
189	Mr. MAKWANA VINOD NATUBHAI	makwana_vinodbhai@gtu.edu.in	9427386784	Dr S & S S Ghandhy College of Engg. & Tech. Surat,Gujarat
190	Mr. DIPENDRASINH CHANDRASINH PARMAR	dcpgecv@gmail.com	9099563098	GOVERNMENT ENGINEERING COLLEGE, VALSAD
191	Mr. DENISHKUMAR ASHOKBHAI PRAJAPATI	denish.prajapati@snpitrc.ac.in	9979759716	S N PATEL INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE UMRACH
192	Mr. Chirag B. Patel	chirag.b.patel@snpitrc.ac.in	9016606737	SNPIT&RC,UMRAKH
193	Mr. Tejaskumar Gunvantbhai Mistry	tejasjmistry92@gmail.com	9662224567	SITARAMBHAI NARANJI PATEL INSTITUTE OF TECHNOLOGY & RESEARCH CENTRE UMRACH BARDOLI
194	Mr. Jay Patel	jaypatel151188@gmail.com	9879277992	uka tarsadia university
195	Dr. A SAKTHIVEL	ersakthi@gmail.com	9865282841	Dr. Mahalingam College of Engineering and Technology
196	Mr. Pradeep Vejju	vejjupradeep@gmail.com	7977047534	Sri Vasavi Engineering College
197	Mr. Divyesh Jayantilal	erwaghela@gmail.com	8488837058	Vishwakarma government engineering college-chandkheda
198	Dr. NIKUNJ PATEL	nikunj1980.patel@gmail.com	9825788250	SSASIT 076
199	Dr. Amit Kumar Gupta	gupta.technocrat@gmail.com	9827731151	VJTI, Mumbai
200	Mr. NITINKUMAR ISHVARLAL PATEL	nipatel@gecv.ac.in	9727205422	Government Engineering College Valsad

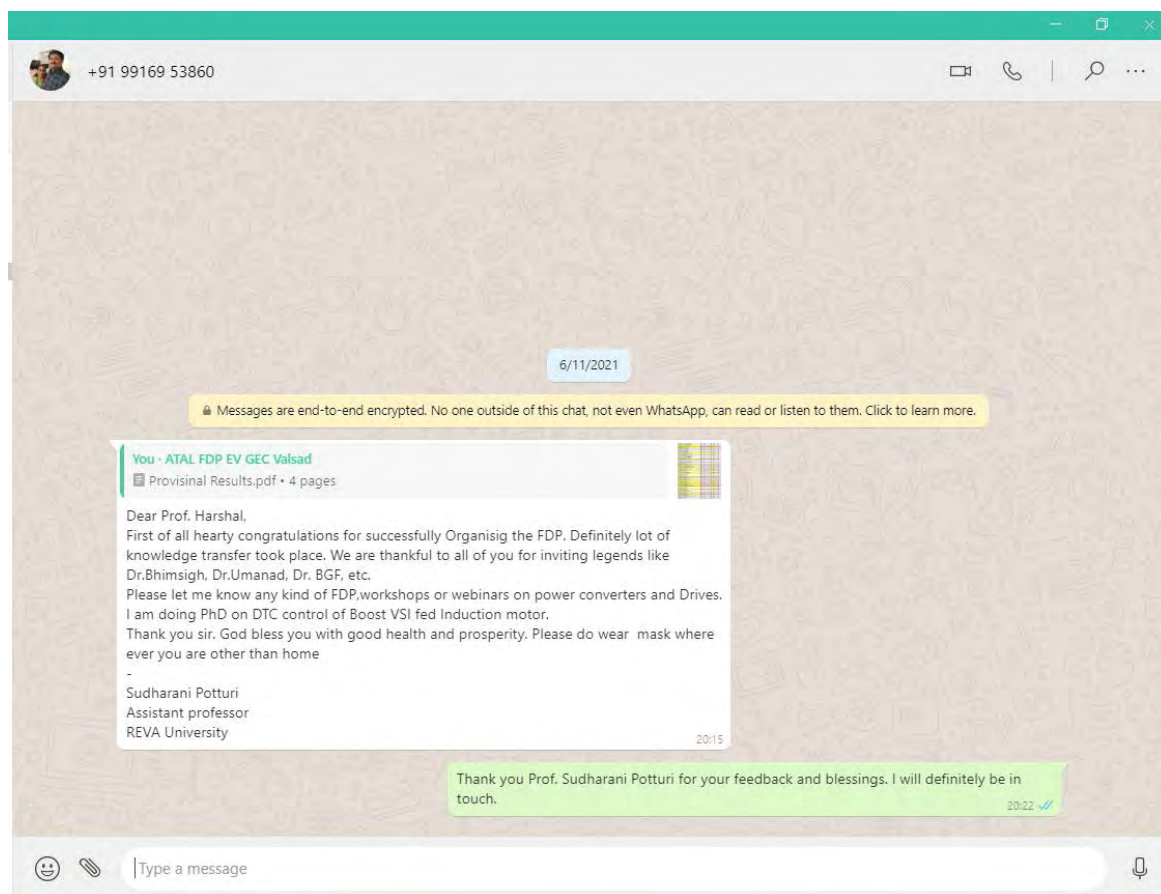
Some of the screenshots of valedictory function are as follows:



## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”

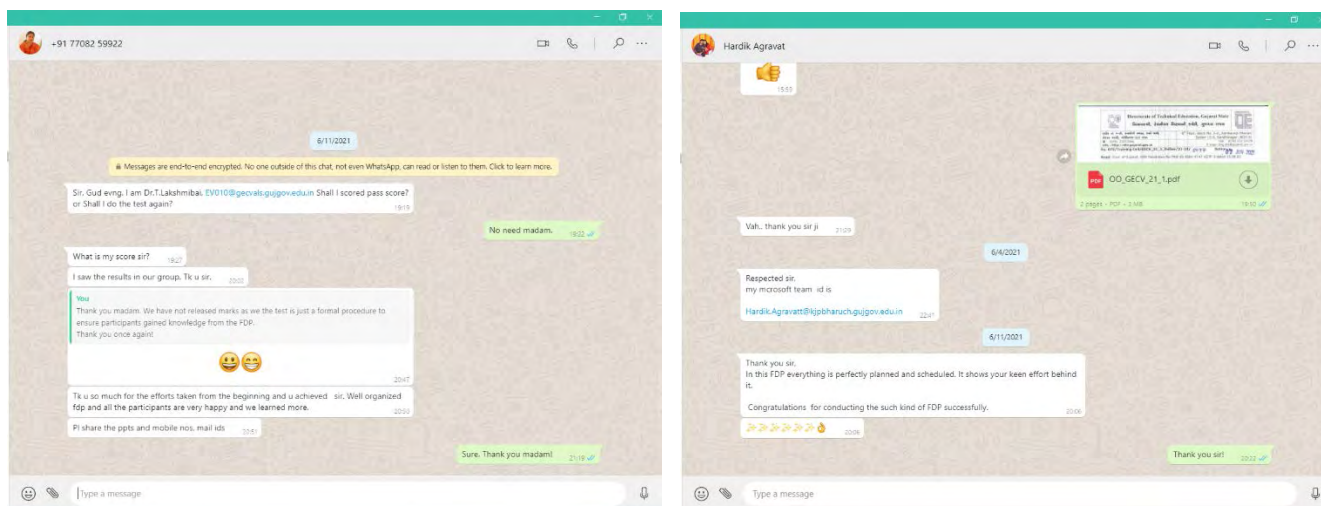


Some feedbacks from participants are as follows:





## ATAL FDP (Online) on “Current Trends of Power Electronics Applications in Electric Vehicles”



The program was a grand success. The experts and participants had appraised the program. The FDP provided a common platform to various professors from engineering institutions across the country to help in their research and motivated them to work in the field of Electric Vehicles.

I am thankful to ATAL Academy, AICTE for providing me such a wonderful opportunity to organize an online FDP in the emerging field of Electric Vehicles. I am also thankful to Dr. V. S. Purani, Principal GEC Valsad for his inspiration, motivation and support to conduct this online FDP. I am also thankful to Dr. K. L. Mokariya, Prof. D. N. Tandel, and entire GECV team for their support. I am thankful to all the experts for their consent to deliver a session in the FDP and the participants for their active participation in the FDP. I look forward for more such opportunities in the future and connect with everyone once again.

### Coordinator:

Prof. Harshal Wani

Assistant Professor (Power Electronics)

Electrical Engineering Department

Government Engineering College Valsad

M: +91 9714942242

Email: hswani@gecv.ac.in

hwani2288@gmail.com