



**REPORT**

# **The Role of Materials in Electric Vehicles**

**7th June to 11th June 2021: , Dept. of Ceramics & Cement  
Technology, PDA College of Engineering, Kalaburgi, Karnataka**

## The Role of Materials in Electric Vehicles FDP

5-Days AICTE sponsored workshop on "The Role of Materials in Electric Vehicles" was conducted from 7<sup>th</sup> to 11<sup>th</sup> June 2021 in which around 199 participants from different parts of the country participated.

The speakers for the 5-day workshop on "The Role of Materials in Electric Vehicles" were:

### OUR RESOURCE PERSONS

 <p><b>Dr. Palani Balaya</b> Professor, Department of Mechanical Engineering, Faculty of Engineering, National University of Singapore, SINGAPORE</p>	 <p><b>Dr. M. V. Reddy</b> Senior Researcher, Institute of Research Hydro-Québec, Center of Excellence in Energy Storage and Transportation Electrification, Montreal, CANADA</p>
 <p><b>Dr. Dinesh Rangappa</b> Professor &amp; Program Coordinator Department of Applied Sciences (Nanotechnology), Vivekananda Technological University, Center for Post Graduate Studies,</p>	 <p><b>Dr. Sathish Marappan</b> Senior Scientist Functional Materials Division Central Electrochemical Research Institute, Kharagpur, INDIA</p>
 <p><b>Dr. M. B. Sahana</b> Senior Scientist Center for Automotive Energy Materials (CAEM), Advanced Research Center for Powder Metallurgy and New Materials (ARCI) Hyderabad, INDIA</p>	 <p><b>Dr. Kuldeep Singh</b> Senior Scientist, CSIR-CECRI, Chennai, INDIA.</p>
 <p><b>Dr. B. Chandrashekhara</b> Technical Lead Automotive Business Division at IATA Consultancy Services Ltd(TCS) Bangalore, INDIA</p>	 <p><b>Dr. Dhinesh Balasubramanian</b> Faculty of Engineering &amp; Center for Alternative Energy Research and Development Khaosr Khan University, Khaosr Khan, 40002, THAILAND.</p>
 <p><b>Mr. Akshat Bansal</b> Co-Founder Soochong Lugas EV Charging Soochong,aryana INDIA</p>	 <p><b>Trainer from Isha foundation</b> Isha Volunteer Isha Yoga Center, Coimbatore, Tamil Nadu INDIA</p>

# ATAL FDP on The Role of Materials in Electric Vehicles

<b>SCHEDULE OF THE FDP</b>			
Day\Time	09.00am to 11.00 am	11.15 am to 01.15 pm	02.00 pm to 04.00 pm
Day 1 Monday 07/06/2021	Session 1	Session 2	Session 3
	Inauguration	Dr. Palani Balaya NUS, Singapore Basics of Li-ion Battery Technology	Dr. Palani Balaya NUS, Singapore Emerging Li-ion Battery Technologies for long range and fast charging of Electric Vehicles
Day 2 Tuesday 08/06/2021	Session 4	Session 5	Session 6
	Dr. Kuldeep Singh CSIR-CECRI, Chennai Selection and designing of smart energy materials for Lithium-Ion Batteries: Technology Innovation and challenges for ESS & Electric Vehicles	Dr. Sathish Marappan Central Electrochemical Research Institute, Karaikal, India Role of Nanomaterials in Electrochemical Energy Storage Devices	Dr. Dinesh Rangappa Center for Nano technology VTU, Muddeshalli Nanomaterials for energy storage devices
Day 3 Wednesday 09/06/2021	Session 7	Session 8	Session 9
	Dr. M. V. Reddy Institute of Research Hydro- Québec, Montreal, Canada. Materials for electric Vehicles: Fundamentals, Materials selection, Energy density and power density, Materials challenges and thermal management	Dr. Dhinesh Balasubramanian Khon Kaen University, Thailand. Recent research progress on the battery thermal management system using phase change materials in EV	Trainer from Isha Foundation Equipping oneself for the COVID 19 Era
Day 4 Thursday 10/06/2021	Session 10	Session 11	Session 12
	Dr. M. B. Sabana CAEM-ARCI, Hyderabad, India Lithium ion Batteries for electric vehicles- Materials & Methods	Dr. B. Chandrasekhar TATA Consultancy Services Limited (TCS), Bangalore. Critical Raw materials for Electric vehicles	Dr. Dhinesh Balasubramanian Khon Kaen University, Thailand. Introduction to the power flow and different configuration on hybrid vehicle technology
Day 5 Friday 11/06/2021	Session 13	Session 14	Session 15
	Dr. Kuldeep Singh CSIR-CECRI, Chennai Manufacturing and upscaling process of making high performance Lithium-Ion Batteries:	Mr. Akash Deep & Mr. Pushpendra Kaushal Statio, Haryana Materials required for making the EV fast chargers and challenges for India in switching to EV.	Assessment & Valediction

# ATAL FDP on The Role of Materials in Electric Vehicles

**Inaugural function of AICTE Training and Learning (ATAL) Academy sponsored one week FDP on "The Role of Materials in Electric Vehicles" on 07/06/2021 at 09.00AM(IST) organized by Dept. of Ceramics & Cement Technology, PDA College of Engineering, Kalaburgi. on ZOOM(Virtual meeting software)**

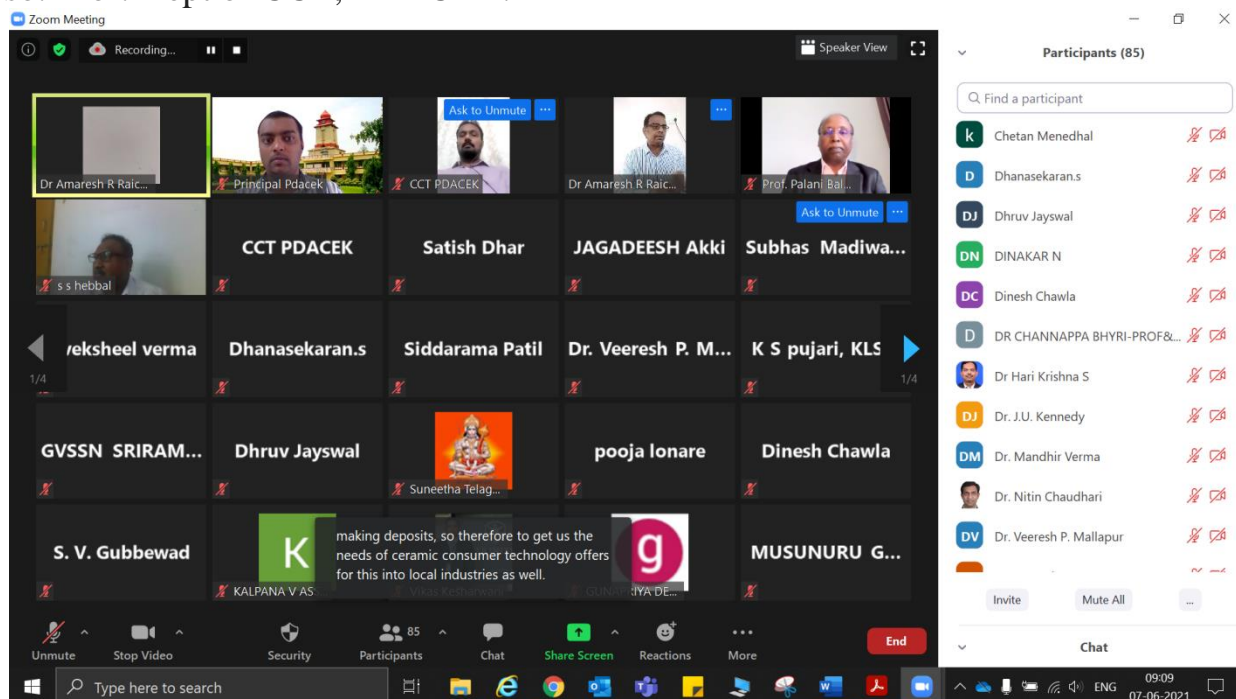
The event was hosted by Prof. Pawan Rangdal Asst. Prof. at Dept of CCT, PDACEK and attended by more than 200 people from all around the world. The function started by commemorating the academicians and researchers who have lost their life in this Covid-19 pandemic by observing silence for two minutes.

Dr. S.B. Patil Prof. at Dept of CCT, PDACEK welcomed the gathering followed by a brief introduction of the Dept. of Ceramics & Cement Technology by the Head of Department Dr. Amaresh R.

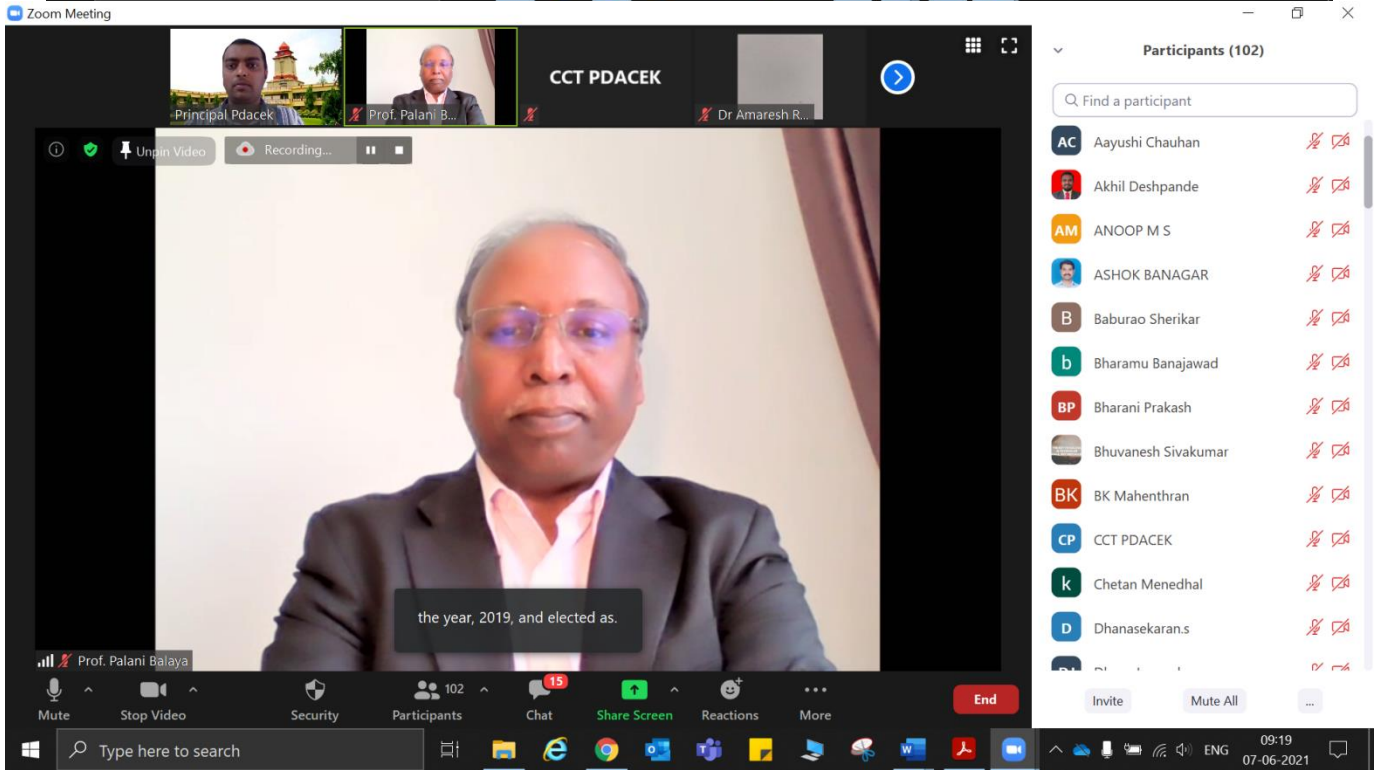
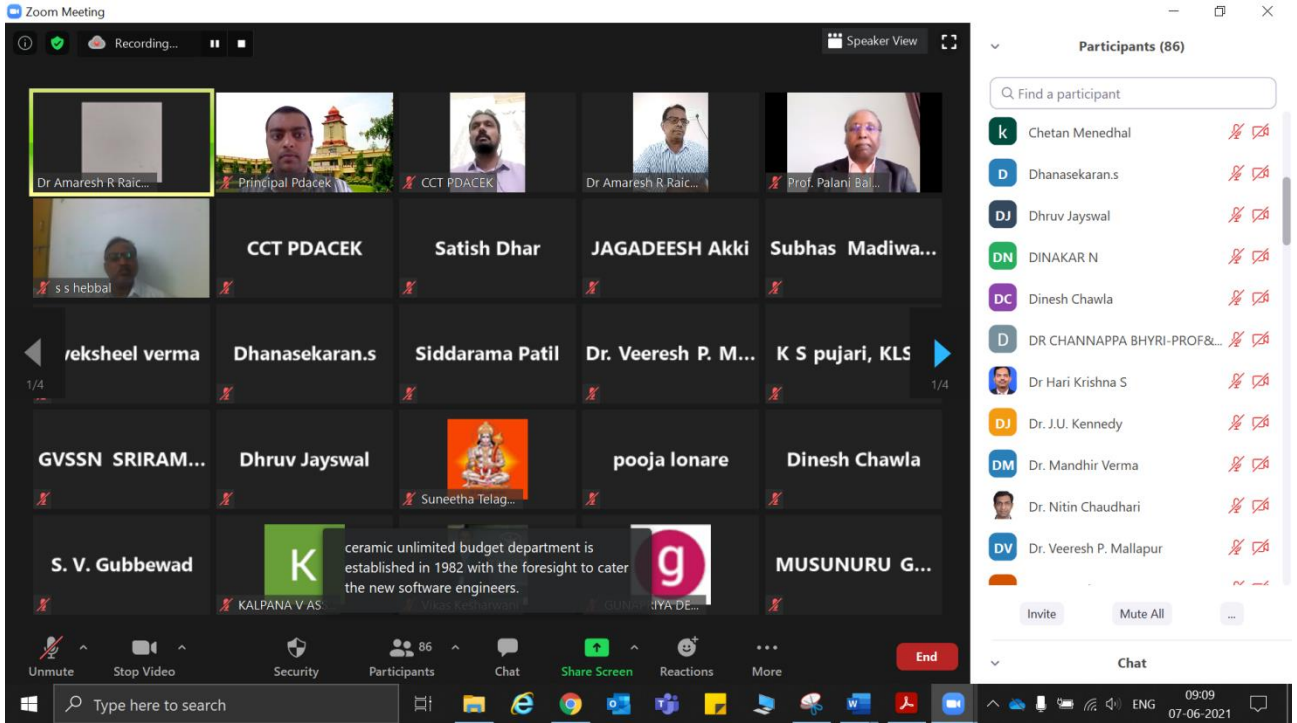
Prof. Pawan Rangdal briefed the participants and invitees about the FDP. Dr. Veeresh P. Mallapur Asso. Prof. Dept of CCT, PDACEK introduced the Chief Guest Dr. Palani Balaya to the gathering.

Dr. Palani Balaya addressed the participants explaining the importance of shifting from IC engines to EV's and the role the materials play in EV batteries.

Dr. S. S. Hebbal Principal of PDA College of Engineering presented his the presidential remarks and wished all the participants a happy learning in during this FDP. The program was concluded by vote of thanks by Dr. Baburao N. Sherikar. Asso. Prof. Dept of CCT, PDACEK.



# ATAL FDP on The Role of Materials in Electric Vehicles



# ATAL FDP on The Role of Materials in Electric Vehicles

Zoom Meeting

Participants (111)

Find a participant

- Principal Pdacek (Host, me)
- Shripad Rangdal (Co-host)
- s s hebbal
- Aayushi Chauhan
- Akhil Deshpande
- Anish Jafrin Thilak J
- ANOOP M S
- ASHOK BANAGAR
- ASHWIN SAHOO
- Baburao Sherikar
- Bharamu Banajawad
- Bharani Prakash

are honorable president of our society.

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Recording

View

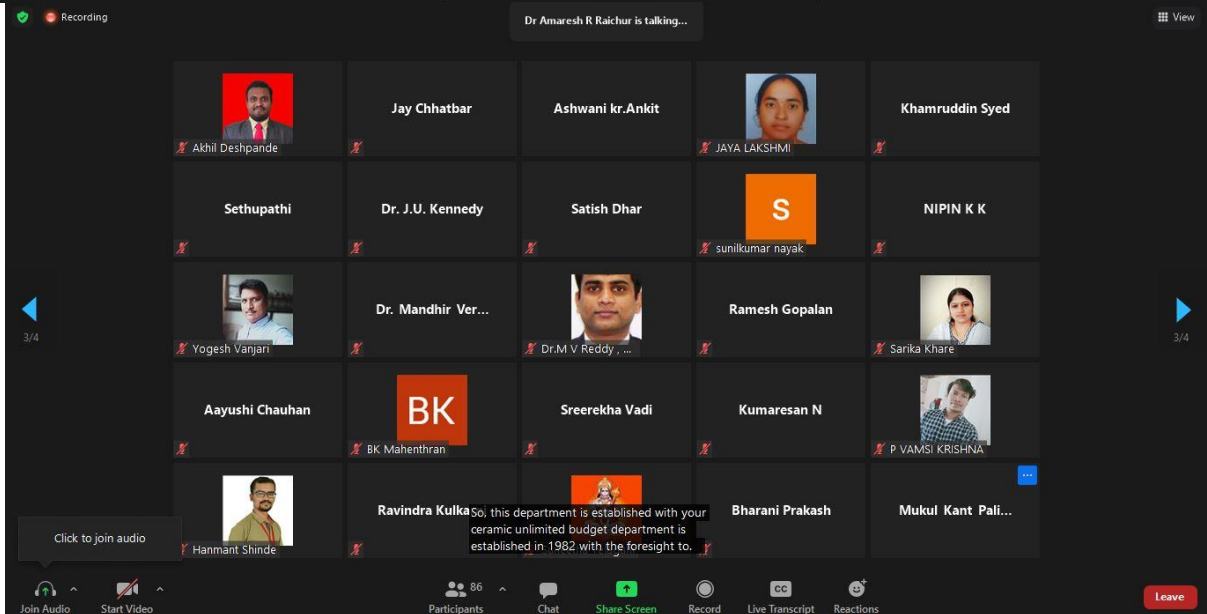
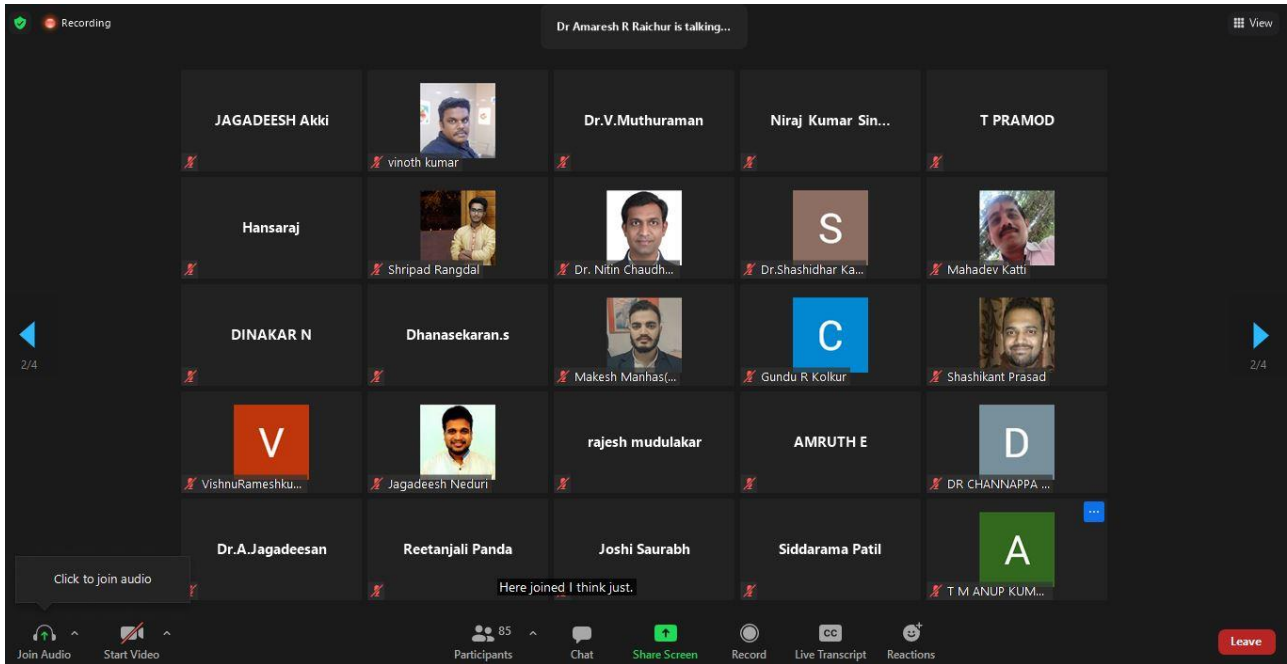
Principal Pdacek	CCT PDACEK	Prof. Palani Balaya	s s hebbal	CCT PDACEK
Dr Amaresh R Raich...	CCT PDACEK	GVSSN SRIRAM...	Dhruv Jayswal	K S pujari, KLS V...
pooja lonare	Dinesh Chawla	S. V. Gubbewad	shravan kumar r...	vivekshel verma
Dr Amaresh R Ra...	Subhas Madiwalar	KALPANA V ASS...	Vikas Kesharwani	GUNAPRIYA DEV...
MUSUNURU G...	ASHOK BANAGAR	V B Kotennavar	Suneel Kumar	

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could not turn up to this function but he has given his message and best, best wishes for the smooth conduction Nancy...

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# ATAL FDP on The Role of Materials in Electric Vehicles



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It was a great Initiative by ATAL Academy. I am thankful to AICTE for giving me this opportunity to conduct online FDP for faculty members of technical institute of India free of cost. I got huge response for registration as well as lots of compliment of arranging the online workshop, content and hands on.