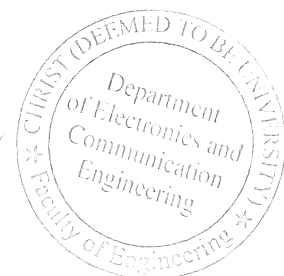




Faculty of Engineering
Department of Electronics & Communication Engineering
REPORT ON DEPARTMENT EVENTS

Academic year & Semester	2019, Even	
Name of the Department	ECE	
PoC Faculty Member for clarifications (write email ID & mobile number for contact)	Prof. Delson T R delson.tr@christuniversity.in 7760327703	
Details of the Event		
Name of Event	Technical Talk	
Description of the Event (seminar/workshop/guest lecture/hands on practice/Industrial Visit)	Technical Talks	
Address & contact details of Resource Persons/Speakers if any (provide email ID & mobile number of all the speakers)	Technical Talks as part of Conclave on Latest Trends in E-Mobility i. Battery Sciences - Dr. MM Shijumon, Professor, IISER Trivandrum ii. EV/HEV Powertrains & Electric Devices - Dr. C S Shankar Ram, Professor, IIT Madras iii. Battery Management Systems - Mr. Saravanakumar R, Vice President, Battery Division AMCO-TAFE iv. Autonomous Vehicles - Mr. SiddharthSreenivasan, CMO, Numocity Technologies v. Charging Infrastructure & Power System Dynamics - Mr. Mustafa Wajid, CEO, Meher Energy Ventures vi. Automotive Electronics - Mr. Shinto Joseph - Director, South-Aisa Operations, LDRA	
No. of Days event held	One	
Date(s) and Duration	Date: 15 February 2020	Time: 9:00am -04 pm
Any amount spent for the event ?	Nil	
Details of participants attended the event		
Number of guests from outside university	Nil	
Students & faculty members from the department	150	
Students & faculty members from Faculty of Engineering (other depts.)	-	
Total Participants	150	
Is Attendance list enclosed? If no, specify the reason	Yes	



7. Technical Talks –As part of E-Mobility Conclave

Dated: 15 February 2020

E- MOBILITY RESEARCH & DEVELOPMENT CENTER

1. Activities and Achievements of E-Mobility R & D Center

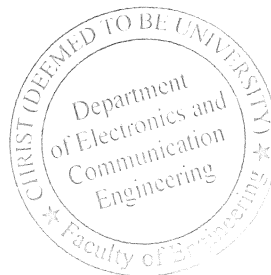
1.1 MoU's Signed:

- Safran Engineering Services, IEEE and Christ (Deemed to be University) on 21 August 2018.
- Mahindra Electric and Christ (Deemed to be University) on 10th January 2019

1.2. Center Activities:

1.2.1 CSR Activities/Events conducted:

1. E-Bikes (2 No 's – with solar based charging facility) for PHC at Bidadi in progress
2. E-Bikes (2 No 's – with solar based charging facility) for security personnel in campus
3. Solar based lighting
4. Smart Wheelchair for PHC at Bidadi in progress
5. Solar based charging station in rural areas
6. Awareness program about advantages of solar energy, electric vehicles and distributed solar based charging stations at remote/ rural locations in surrounding schools and colleges
7. Project Exhibitions on electric vehicles and solar power for student community in Bangalore and visits to the E-Mobility center conducted.
8. Health camp at Byramangala PHC on 16th Jan 2020
9. E-Mobility Conclave conducted on 15th Feb 2020
10. Two EV Hackathons on E-Mobility conducted for students of engineering colleges at National Levels for awareness of EV and Green Technology in the country, one already conducted in Feb 2019 & the other presently in progress ie: 28th & 29th 2020.
11. Hybrid vehicle short-listed amongst 3000 entries for KPIT Challenge 2020 at Pune
12. Student projects by Safran Interns
13. E-Mobility projects by B.Tech Students



1.2.2: Center Development:

- Infrastructure development including Electrical Installations, Furniture, Charging Facility, Server Systems.
- Procured of Electric Vehicle from Mahindra Reva
- Procured HIL Standard Pro – IPG Carmaker from ATS Automotive Systems and Software Training
- Automotive Electronics Setups for EVs

Verticals covered under the HIL Test Bench:

Virtual Vehicle development

Study on ADAS and Automated Driving

Study on Powertrain

Study on vehicle dynamics

LIDAR sensor simulation & RADAR sensor simulation

GPS based load sharing for Hybrid vehicles

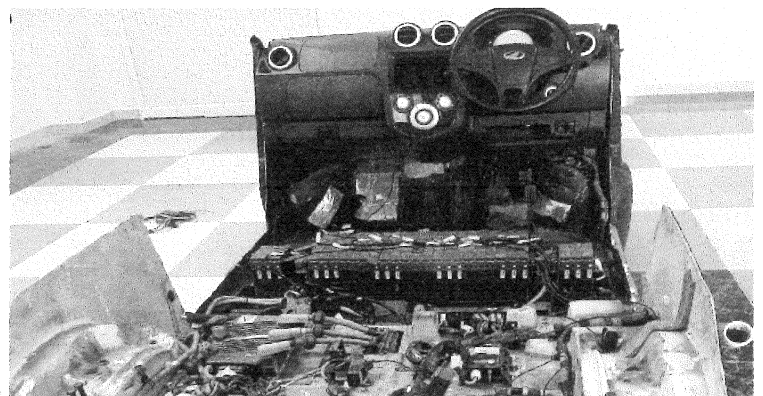
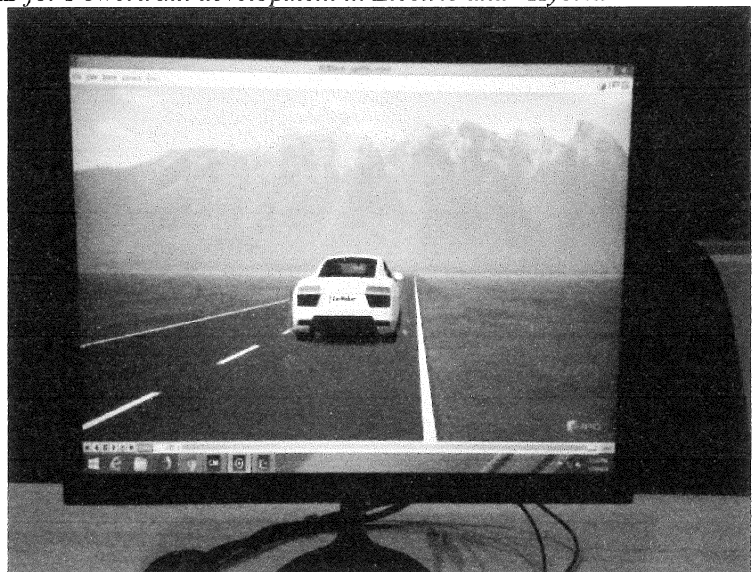
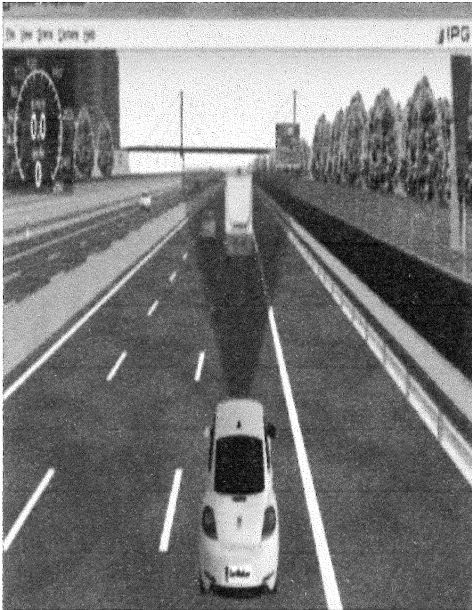
Performance tests for physical limitations

Emission and Fuel consumption testing

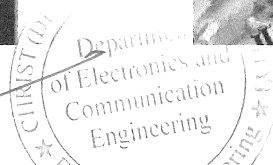
Study on Brake systems, Tire Modelling

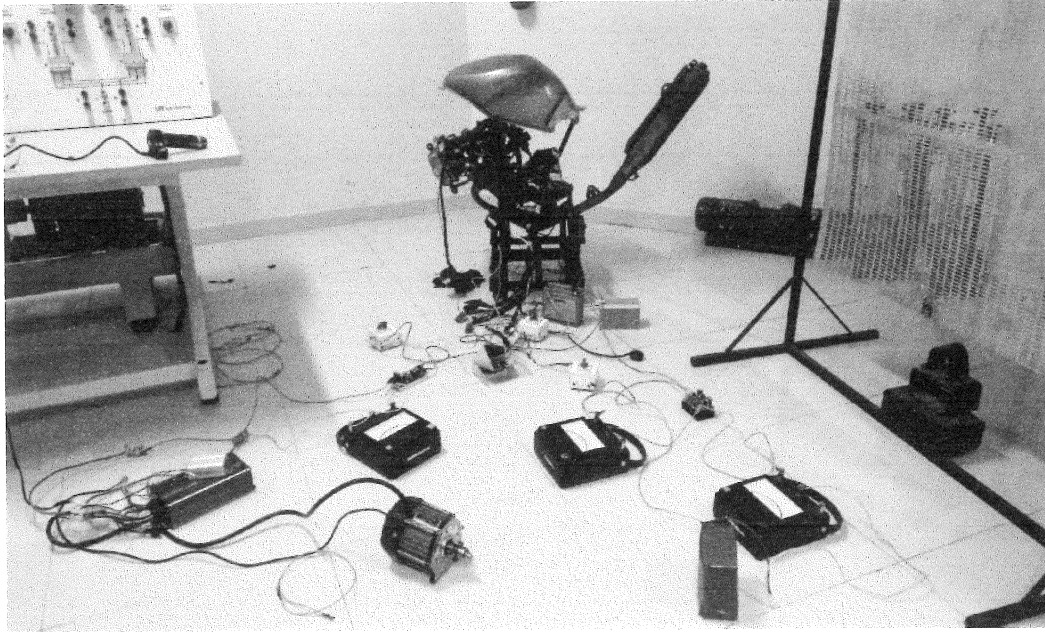
Study on improved steering on Vehicle dynamics

MATLAB for Powertrain development in Electric and Hybrid



Rulli





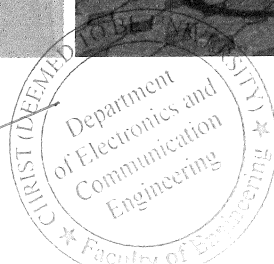
IC Engine Tuning System

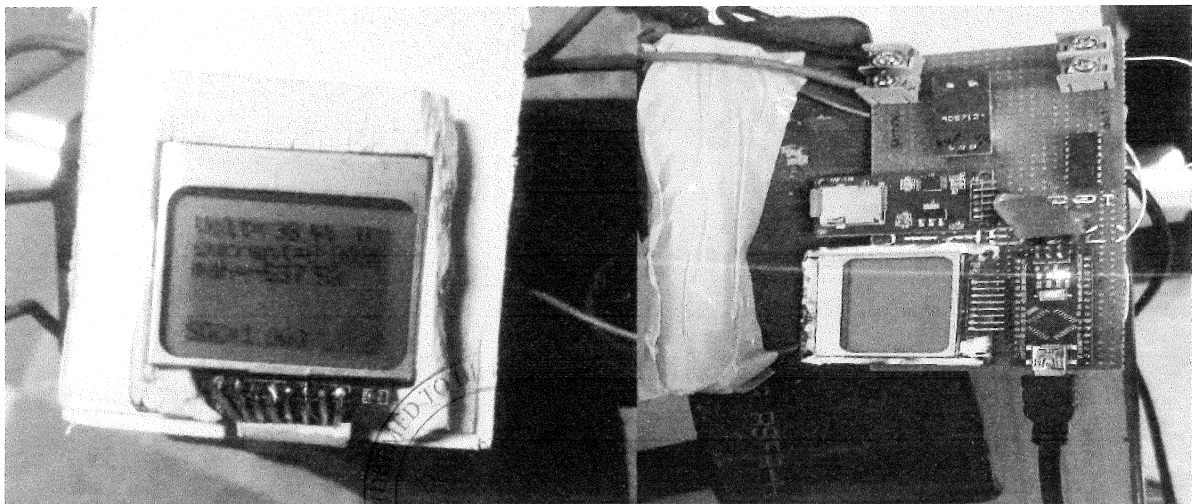
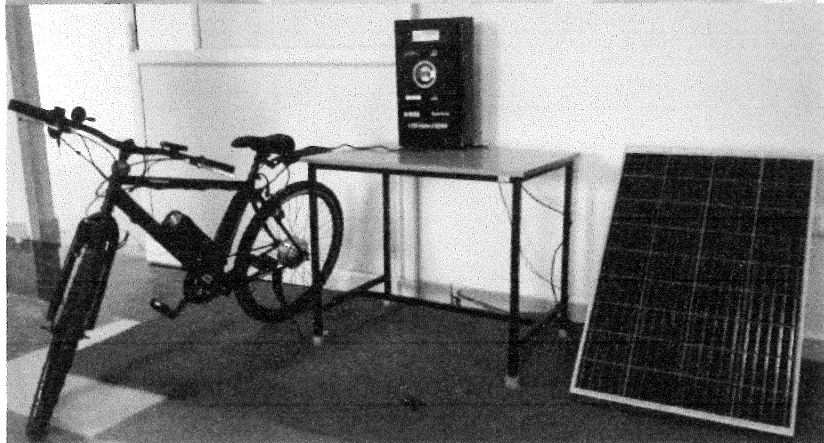
1.2.3 Ongoing Work in E-Mobility Product Development:

- *E-Bikes*
- *Smart BMS*
- *Solar based Charging stations*
- *Hybrid Vehicle*
- *Smart Wheelchair*
- *Foldable E-Bike*
- *Vehicle to Grid and Vice-versa Transmission for Electric Vehicle*



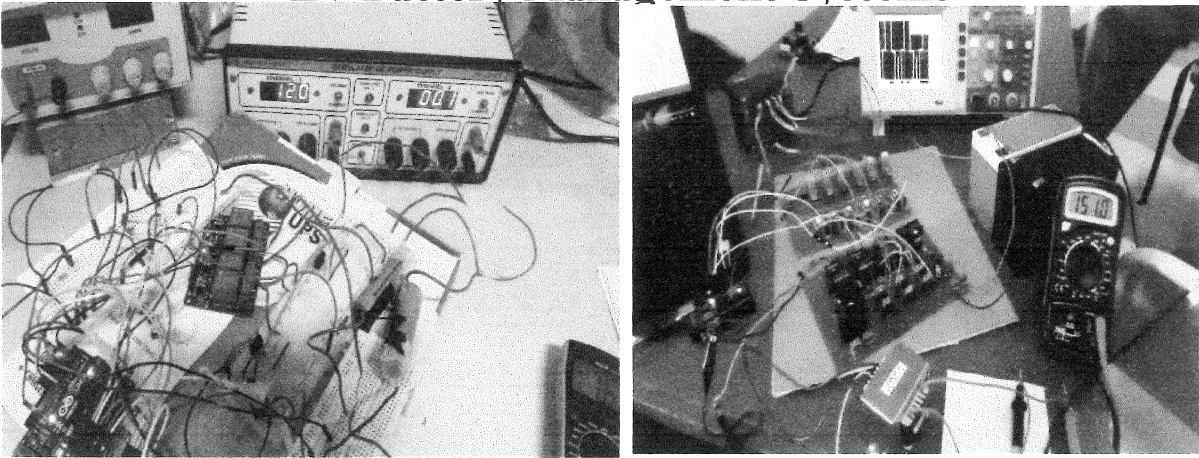
R.lli



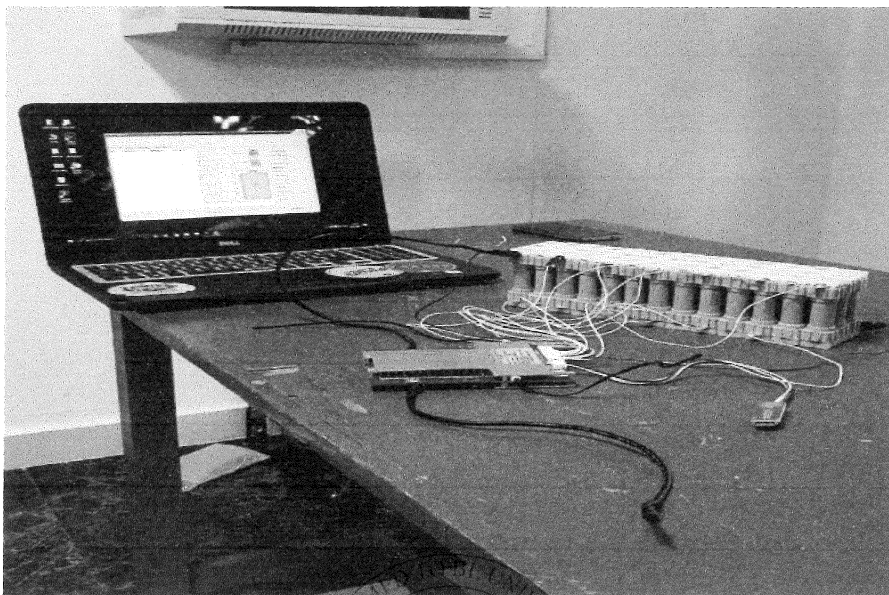
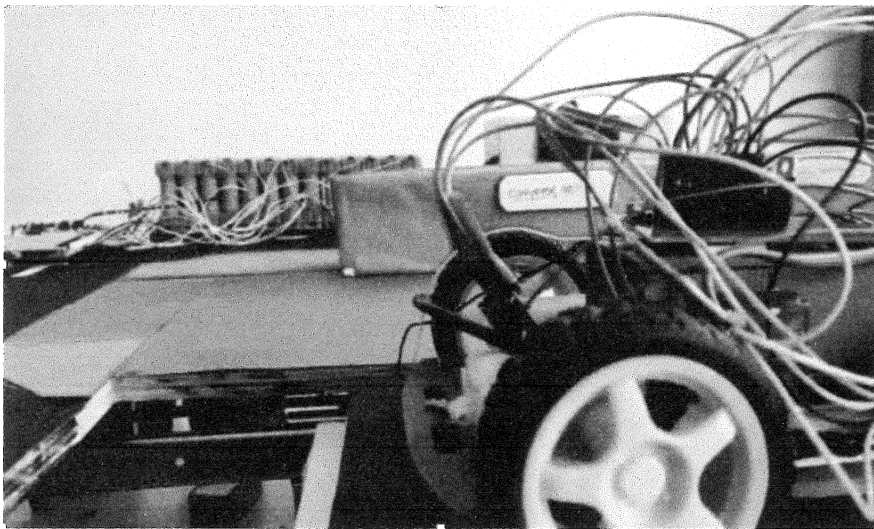


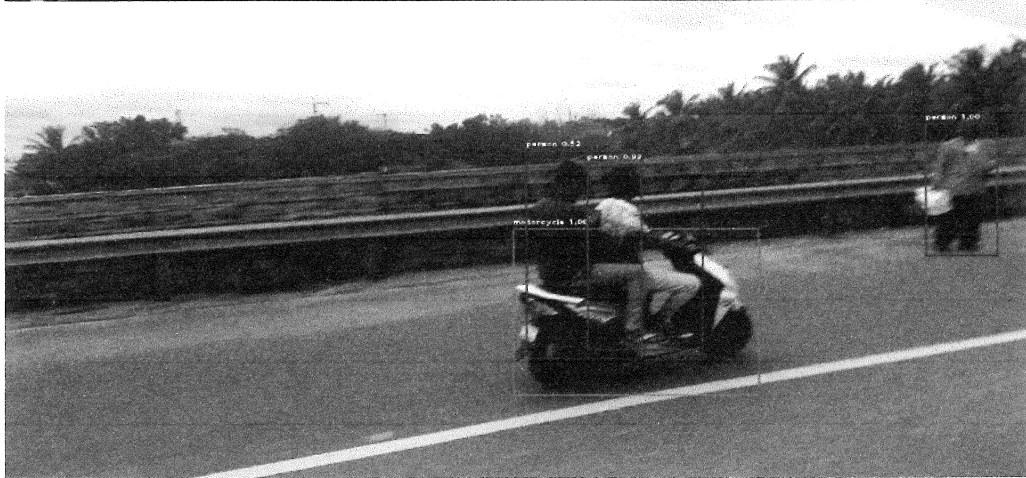
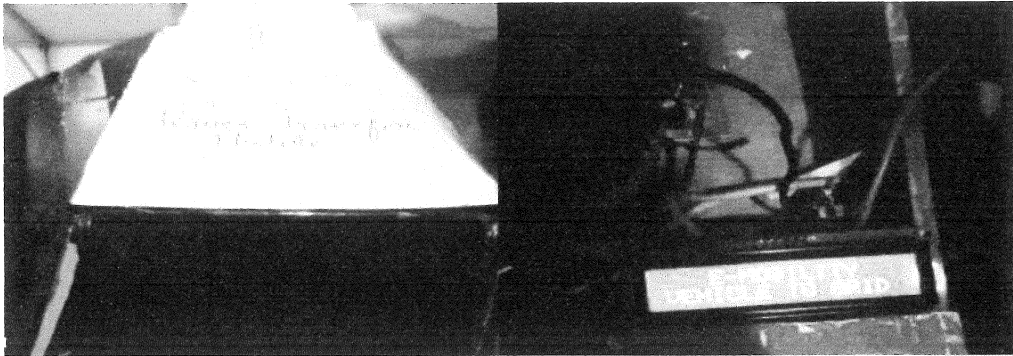
PHI
UNIVERSITY OF COMMERCE
FACULTY OF ENGINEERING

EV Battery Management Systems

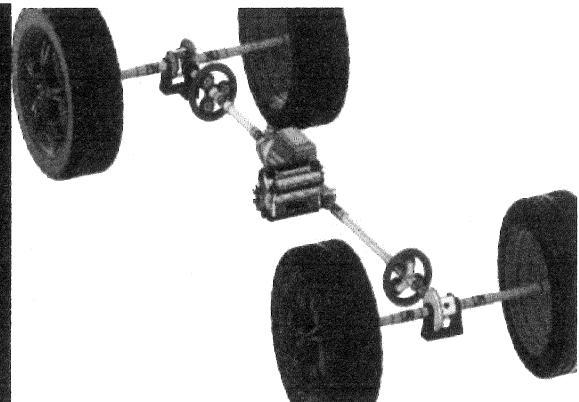


Smart Charging Infrastructure Development





Patent filing



Alvi

Micro Mobility model

PHEV Drivetrain

1.3. Current Research Activities:

- *Performance Analysis of ECU for Electric Vehicle Safety Systems– Ms Indu (JRF& Research Scholar)*
- *VANET based Vehicular communication - Fr. Thomas-PhD Research Scholar*
- *Hybrid vehicle development*
- *Automotive Sensor Networks for Autonomous Vehicles - Ms Udhyami (Ph.D Research Scholar)*
- *MATLAB based modelling of Induction Motor UG student*
- *Research papers published in reputed conferences and journals*

1.4. Visits & Interactions:

- *By Industry leaders from Mercedes Benz, SEG Automotive,*
- *Interaction to Dr. Kincha, Prof. Emeritus ,IISc Bangalore*
- *Visit to Automotive Research Lab and Interaction with Dr. Shankar Ram, Prof., IIT Madras*
- *Mr. Mustafa Wajid (CEO- Meher Energy Ventures)*
- *Mr. Mahesh Babu (CEO- Mahindra Electric)*
- *Mr. Saravanakumar R, Vice President Battery Division AMCO-TAFE*
- *Mr. Srikanth Chandrasekharan, Senior Director, Standards & Technology IEEE*
- *Dr. M. M. Shaijumon, Professor from IISER, Trivandrum*

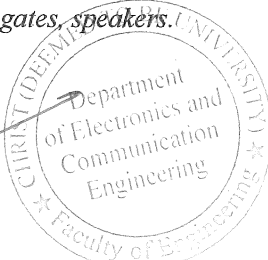
1.5 E-Mobility Conclave on 15 Feb 2020

To promote E-Mobility solutions in India, the E-Mobility R & D Center at School of Engineering and Technology, CHRIST (Deemed to be University) organized a "Conclave on E-Mobility - Indian Context" on 15 February 2020 at School of Engineering and Technology, CHRIST (Deemed to be University), Bangalore, Kengeri campus. This Conclave provided a platform for open discussions with academicians, bureaucrats, researchers, industrialists and E-mobility experts on topics - Indian EV policy, Automotive standards, Charging infrastructure, Electric & Hybrid Drive systems, Battery Science, and Autonomous technologies for electric vehicles and its applications.

Followed by the inauguration, Panel discussions on "Latest Trends in E-Mobility: Indian Context" and "Ecosystem for E Mobility Lab Development" was conducted successfully.

Panel discussion was followed by six technical talk sessions which were deliberated parallelly based on two different tracks by invited delegates, speakers.

R. S. S.

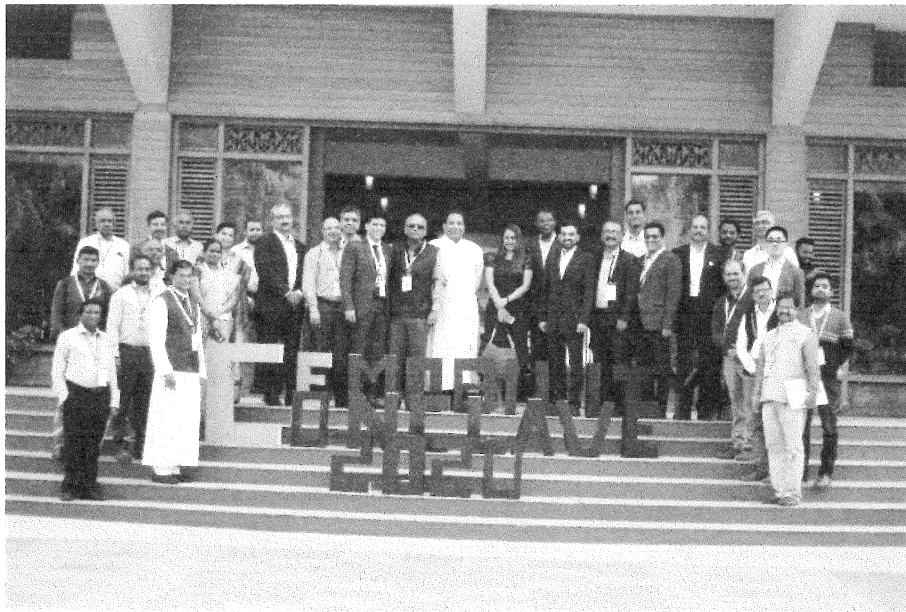


Track 1: Battery Sciences, Battery & Energy Management Systems and Charging Infrastructure and Power System Dynamics.

Track 2: EV & HEV Power train, Automotive Electronics & Autonomous

Technical Talks as part of Conclave on Latest Trends in E-Mobility

- i. Battery Sciences – Dr. MM Shijumon, Professor, IISER Trivandrum
- ii. EV/HEV Powertrains & Electric Devices – Dr. C S Shankar Ram, Professor, IIT Madras
- iii. Battery Management Systems – Mr. Saravanakumar R, Vice President, Battery Division AMCO-TAFE
- iv. Autonomous Vehicles – Mr. SiddharthSreenivasan, CMO, Numocity Technologies
- v. Charging Infrastructure & Power System Dynamics – Mr. Mustafa Wajid, CEO, Meher EnergyVentures
- vi. Automotive Electronics – Mr. Shinto Joseph – Director, South-Aisa Operations, LDRA



Audience included Invited delegates from both industry and academia, more than 250 registered participants from various engineering colleges, researchers & Christ University faculty & students.



Agenda

15 February 2020

Time	Session						
9.15 A.M.- 10.00 A.M	Inauguration						
10.15 A.M.- 11.30 A.M	Panel Discussion- Latest Trends in E-Mobility: Indian Context <ul style="list-style-type: none"> - Present EV Scenario in India: India Specific EV Solutions & Deployment - Battery Technology: Battery Sciences, Battery Management System & Battery Disposal - EV Charging Infrastructure: Indian Scenario, Smart Grid & Renewable Integration - EV Standards, Policies & Regulations - Ecosystem for E Mobility Lab development 						
11.30 A.M.- 11.45 A.M	Tea Break						
11.45 A.M.- 12.30 P.M	<table border="1"> <thead> <tr> <th>Venue</th> <th>First Block Auditorium</th> <th>Third Block Auditorium</th> </tr> </thead> <tbody> <tr> <td>Session-1</td> <td>Battery Sciences</td> <td>EV/HEV Powertrains & Electric Drives</td> </tr> </tbody> </table>	Venue	First Block Auditorium	Third Block Auditorium	Session-1	Battery Sciences	EV/HEV Powertrains & Electric Drives
Venue	First Block Auditorium	Third Block Auditorium					
Session-1	Battery Sciences	EV/HEV Powertrains & Electric Drives					
12.30 P.M - 1.15 P.M	Lunch Break						
1.15 P.M.- 2.00 P.M	<table border="1"> <thead> <tr> <th>Session-2</th> <th>Battery Management Systems</th> <th>Autonomous Vehicles</th> </tr> </thead> <tbody> <tr> <td>Session-3</td> <td>Charging Infrastructure & Power System Dynamics</td> <td>Automotive Electronics</td> </tr> </tbody> </table>	Session-2	Battery Management Systems	Autonomous Vehicles	Session-3	Charging Infrastructure & Power System Dynamics	Automotive Electronics
Session-2	Battery Management Systems	Autonomous Vehicles					
Session-3	Charging Infrastructure & Power System Dynamics	Automotive Electronics					
2.00 P.M.- 2.45 P.M							
2.45 P.M.- 3.15 P.M	Tea Break, E-Mobility Stall Visits & Networking						
3.15 P.M.- 4.00 P.M	<table border="1"> <thead> <tr> <th>Session-4</th> <th>Ecosystem for E Mobility Lab Development</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Session-4	Ecosystem for E Mobility Lab Development				
Session-4	Ecosystem for E Mobility Lab Development						

CEOs and Industry experts of OEMs in E-Mobility: Mahindra Electric, Safran Engineering Services, TVS, Meher E-Mobility, SEG Automotive, LDRA, Numocity Tech, iAmps & Hz, IEEE and Professors from IIT Madras and IISER Trivandrum will speak at the above sessions.

Organising Chair

- Dr Fr Abraham VM**
Hon. Vice Chancellor,
CHRIST (Deemed to be University)
- Mr Damodran Subramanian**
MD, Safran Engineering Services India
- Mr Harish Mysore**
Senior Director, IEEE India Operations
- Dr Fr Benny Thomas**
Director, School of Engineering & Technology
- Dr Anil Pinto**
Registrar,
CHRIST (Deemed to be University)

Organising Committee

- Dr Preethi Jain**
Director Philanthropy IEEE
- Fr Antony Puthusseri**
Campus Director, School of Engineering & Technology
- Dr Iven Jose**
Dean, School of Engineering & Technology
- Dr Joseph Rodrigues**
Professor & Head, Department of EEE
PoC, E- Mobility R & D Facility
- Dr Gurumoorthy S Hebbar**
Professor & Head, Department of ME & AE
- Dr Inbanila K**
Professor & Head, Department of ECE
- E- Mobility Research & Development Center**
School of Engineering & Technology
Bangalore Kengeri Campus
CHRIST (Deemed to be University)



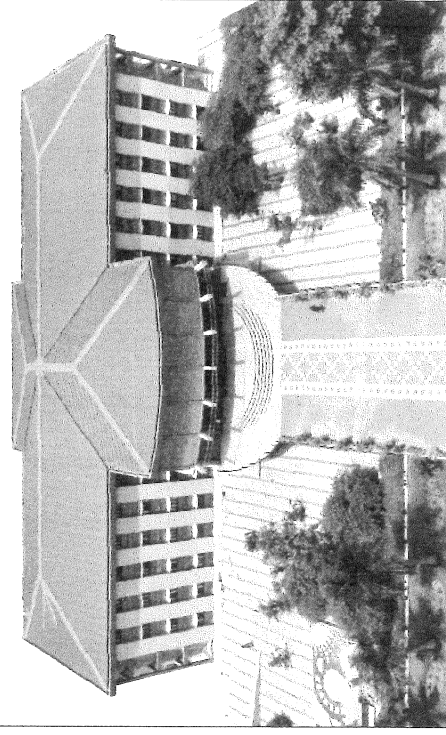
Conclave on Latest Trends in E-Mobility: Indian Context

15 February 2020

Organized by

E-MOBILITY RESEARCH AND DEVELOPMENT CENTER

at
School of Engineering & Technology
Bangalore Kengeri Campus
CHRIST (Deemed to be University)



About CHRIST (Deemed to be University)

CHRIST (Deemed to be University) was born out of the educational vision of St Kuriakose Elias Chavara, an educationalist and social reformer of the nineteenth century in South India. He founded the first Catholic indigenous congregation, Carmelites of Mary Immaculate (CMI), in 1831 which administers CHRIST (Deemed to be University).

Established in 1969 as Christ College, it undertook path-breaking initiatives in Indian higher education with the introduction of innovative and modern curricula, insistence on academic discipline, imparting of Holistic Education and adoption of global higher education practices with the support of creative and dedicated staff. The University Grants Commission (UGC) of India conferred Autonomy to Christ College in 2004 and identified it as an Institution with Potential for Excellence in 2006. In 2008 under Section 3 of the UGC Act, 1956, the Ministry of Human Resource Development of the Government of India, declared the institution a Deemed to be University, in the name and style of Christ University. One of the first institutions in India to be accredited in 1998 by the NAAC, and subsequently in 2004 and 2016, CHRIST (Deemed to be University) has the top grade 'A' in the 4-point scale.

The multi-disciplinary University which focuses on teaching research and service offers Bachelors to Doctoral programmes in humanities, social sciences, science, commerce, management, engineering, education, and law to over 21000 students. The campus is a living example for the harmonious multiculturalism with students from all the states of India and around 60 different countries. CHRIST (Deemed to be University) publishes six peer-reviewed research journals and has published more than 300 books in Kannada and English. A promoter of sports, music and literary activities, it is a nurturing ground for creative excellence.

About School of Engineering & Technology:

School of Engineering & Technology at CHRIST (Deemed to be University) was started on 14th September 2009 to promote quality Technical Education in Engineering. The goal of SOE is to develop effective leaders in Engineering/Technology with ethical and human values to reshape the nation.

The Engineering Service Assisted Integrated Learning (E-SAIL) is a service learning initiative of the SOE, Christ (Deemed to be University). The program, is designed based on the societal needs the key being "Innovation in Service to Public".

About IEEE

IEEE and its members inspire a global community to innovate for a better tomorrow through its more than 423,000 members in over 160 countries, and its highly cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted "voice" for engineering, computing, and technology information around the globe. IEEE Student Branches have played a vital role in improving the technical and leadership qualities of engineers and aspiring engineering graduates making them employable and skilled in their respective fields.

About SAFRAN

Safran Engineering Services is part of the Safran group and a subsidiary of Safran Electrical & Power. The company provides hi-tech engineering services to the aerospace, energy and ground transport industries. With its 3,700 engineers and technicians, the company has many operating entities around the world (France, Germany, United Kingdom, Spain, United States, Mexico, Morocco, Canada, Brazil and India), which combine their expertise in electrical systems, aerostuctures, mechanical and software systems and on-board electronic systems.

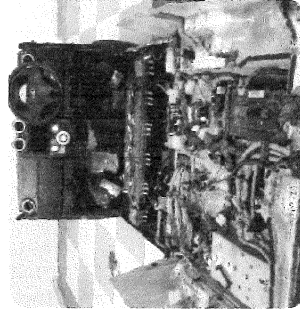
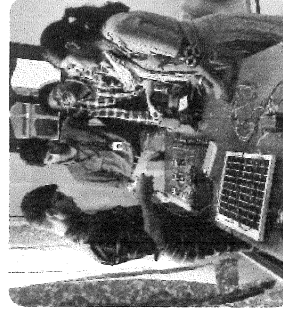
Safran Engineering Services maintains the highest standards of quality in each of its activities, giving priority to customer satisfaction, meeting commitments, continuous improvement and mobilization of all employees.

E-Mobility Research and Development Center

Electric Vehicle revolution will improve quality of life by reducing pollution in our cities, create new jobs, economic development opportunities and reduce energy spending. In a world where oil is a limited resource, electricity as a source for transportation is not only a smart investment but an inevitable one.

Objectives:

The facility aims at developing competency in Research & Product Development in avenues that include improved Charging Infrastructure, Battery Sciences, Smart Electric Drive systems, IoT technologies for EVs, Connected Vehicles, Hybrid Power trains, Battery & Energy Management Systems, Vehicle to Grid integration and improved Power System Dynamics.



Product Development:

- High end EV Simulator Software, IPG Carmaker and Hardware simulator setup for performance testing, vehicle dynamics, power train based research.
- ECU development for braking mechanism in Electric vehicles
- VANET Based Electric vehicle research
- Three wheeler development
- Brake management system for EV
- E-Bicycle prototype, Two Wheeler E- Ambulance and Solar E-Buggy
- Smart E-wheel chair
- Hybrid Electric Vehicle Test Bench
- Vehicle to Grid Integration studies
- Ultrawide band communication for Intelligent vehicle.
- Signal processing strategies for wireless sensor networks in smart electric vehicles

About Conclave

The Indian Electric Mobility is on its transition from demonstration stage to large scale Commercialization stage. The Government of India initiatives such as National Electric Mobility Mission Plan 2020 and other initiatives has brought interest towards E-Mobility in the automotive industry. But the lack of infrastructure and the low range factors are not making them popular among the masses. The Conclave aims to provide a platform for eminent personalities ranging from policy makers to standard developers, from industry experts to academicians, who could interact and evolve ideas. The conclave would cater to Autonomous vehicles, Automotive electronics, Vehicle Regulation Standards, EV/HEV Powertrains, Power System Dynamics and Battery Sciences. The E-mobility industry is an exciting avenue that caters to integration of varied Engineering fields and the Conclave would be a chance to explore it.

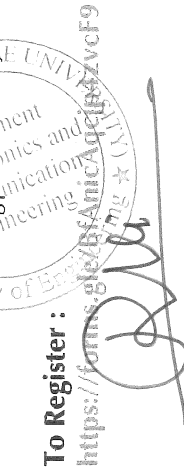
Registration for participants:

The Registration is free and invites will be provided on a First come First Serve basis due to limitation in seats. Speakers from reputed E-Mobility Industry, National Institutes and Government Policy Makers. Industry Personnel and Researchers in the area of E-Mobility are expected to be part of the Conclave.

Posters are invited in the area of E-Mobility pertaining to Automotive Electronics, Autonomous Vehicles, Electric & Hybrid Power Trains, Battery Sciences, Battery & Energy Management, Vehicle Modelling, Power System Dynamics and Charging Infrastructure. Three best posters will be awarded. The last date for submitting posters is 31st January 2020.

To Register :

<https://forms.gle/BfANiCAqTtPzvcF9>



e-Mobility Conclave

15 February 2020

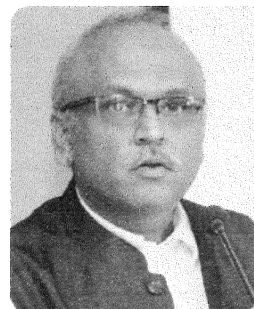
SPEAKERS



MR. DAMODARAN SUBRAMANIAN
MANAGING DIRECTOR
SAFRAN ENGINEERING INDIA



MR. MAHESH BABU
CEO, MAHINDRA ELECTRIC



MR. MUSTAFA WAJID
CEO, MEHER ENERGY VENTURES



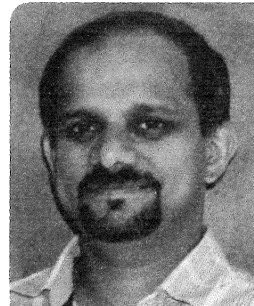
DR. ANANTH KRISHNA
CEO, IAMPS & HZ



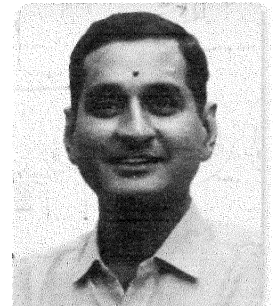
MR. SHINTO JOSEPH
DIRECTOR, ASIA-PACIFIC LDRA



MR. RAVIKIRAN ANNASWAMY
CEO & MANAGING DIRECTOR
NUMOCITY TECHNOLOGIES



DR. M M SHALJUMON
PROFESSOR, IISER



DR. C.S SHANKAR RAM
PROFESSOR, IIT MADRAS



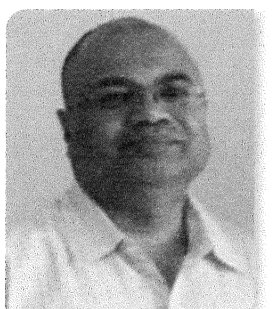
MR. KRISHNA
GENERAL MANAGER
SEG Automotive



MR. SARAVANAKUMAR R
VICE PRESIDENT
BATTERY DIVISION
AMCO-TAFE



MR. HARISH MYSORE
Sr. DIRECTOR
INDIA OPERATIONS
IEEE



MR. SRI CHANDRA
Sr. DIRECTOR
STANDARDS & TECHNOLOGY
IEEE INDIA

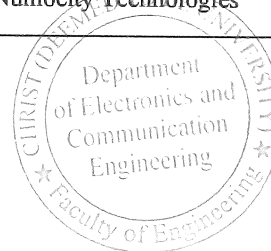


Conclave on Latest Trends in E-Mobility: Indian Context

15 February 2020

Agenda

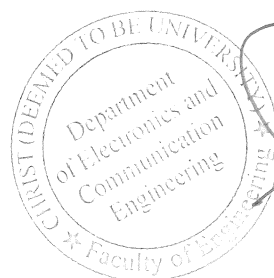
Inauguration - First Block Auditorium		
9.15 A.M- 9.45 A.M	Inauguration	Dr. Fr. Abraham V.M Vice Chancellor, CHRIST (Deemed to be University)
9.45 A.M- 10.15 A.M	Tea & Networking	
10.15 A.M- 11.00 A.M	Panel Discussion -1 Latest Trends in E-Mobility: Indian Context Venue: <i>Open Auditorium</i> Audience : Invited External Students, Researchers, Industry Representatives & Christ University Faculty & Students	
	Moderator Mr. Damodaran Subramanian, Managing Director, Safran Engineering, India	
	Present EV Scenario in India: India Specific EV Solutions & Deployment	Mr. Mahesh Babu, CEO, Mahindra Electric
	Battery Technology: Battery Sciences, Battery Management System & Battery Disposal	Mr. Saravanakumar R, Vice President Battery Division AMCO-TAFE
	EV Charging Infrastructure: Indian Scenario, Smart Grid & Renewable Integration Electric Vehicle Policies	Mr. Mustafa Wajid, CEO, Meher Energy Ventures Mr. Srinidhi Sampath Consulting Engineer (Materials) ABB Electrification R&D
	Panel Discussion -2 Ecosystem for E Mobility Lab Development Venue: <i>Open Auditorium</i> Audience : Invited External Students, Researchers, Industry Representatives & Christ University Faculty & Students	
	Moderator – Mr. Sri Chandra S, Senior Director, Standards & Technology IEEE	
11.00 A.M- 11.45 A.M	Automotive Electronics & Autonomous Vehicles	Mr. Shinto Joseph, Director, South Asia Operations, LDRA Mr. Siddhart Sreenivasan, CMO, Numocity Technologies



Ravi

	EV/HEV Power Trains	Dr. C.S Shankar Ram, Professor, IIT Madras	
	Battery Science	Dr. M.M Shaijumon Professor, IISER Trivandrum	
	EV Lab Ecosystem Development	Mr. Damodaran Subramanian, Managing Director, Safran Engineering India	
11.45 A.M – 12.15 P.M	E-Mobility Stall Visit		
Technical Talks			
		<i>First Block Audi</i>	<i>Third Block Audi</i>
12.15 P.M- 1.00 P.M	Session-1	<u>Battery Sciences</u> Dr. M.M Shaijumon Professor, IISER Trivandrum	<u>EV/HEV Powertrains & Electric Drives</u> Dr. C.S Shankar Ram Professor, IIT Madras
1.00 P.M – 1.45 P.M	Lunch Break		
1.45 P.M- 2.30 P.M	Session-2	<u>Battery Management Systems</u> Mr. Saravanakumar R, Vice President Battery Division AMCO-TAFE	<u>Autonomous Vehicles</u> Mr. Siddhart Sreenivasan CMO Numocity Technologies
2.30 P.M- 3.15 P.M	Session-3	<u>Charging Infrastructure & Power System Dynamics</u> Mr. Mustafa Wajid, CEO Meher Energy Ventures	<u>Automotive Electronics</u> Mr. Shinto Joseph, Director, South- Asia Operations, LDRA
THANK YOU			

1. All students required for the panel discussions with Dept teachers to maintain discipline.
2. HODs to be present for inaugural with few faculty and for Panel discussions HOD and all faculty
3. HODs and others for networking after inaugural and lunch
4. HODs to instruct students to register on the link or arrange a registration drive and class room announcement.
5. HODs have to assign students for attending technical sessions.



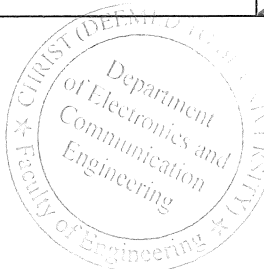
Technical Talks - E-Mobility Conclave

Attendance List

15 February 2020

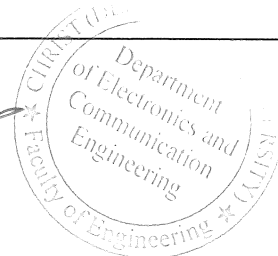
SL No	Register Number	Name	PRESENT/ABSENT
1	1660114	SOWMYA SREENIVASAN	<i>Sowmya</i>
2	1660370	RUDRAKSH MISHRA	<i>Rudraksh</i>
3	1660486	R ARJUN	<i>R Arjun</i>
4	1660601	AJAY RAMAKRISHNA MENON	<i>Ajay Ramakrishna Menon</i>
5	1660603	BRAHM DEV TIWARI	<i>Brahm Dev Tiwari</i>
6	1660606	ISAC S KULAKUDY	<i>Isac S Kulakudy</i>
7	1660607	K ABISHEK CHANDRAN	<i>K Abishek Chandran</i>
8	1660608	K KARTHIK	<i>K Kartik</i>
9	1660610	LOURDHU AKHIL KANNA	<i>Lourdh Akhil Kanna</i>
10	1660611	M SIBI MANUSH	<i>M Sibi Manush</i>
11	1660612	MANIK RAJ	<i>Manik Raj</i>
12	1660613	MICHENAMETLA MEGHA SHYAM	<i>Michenametla Megha Shyam</i>
13	1660614	MINTO MATHEW K J	<i>Minto Mathew K J</i>
14	1660615	PRITHVI RAJ MACHA	<i>Prithvi Raj Macha</i>
15	1660617	REEVE IGNATIUS SAVIO LOBO	<i>Reeve Ignatius Savio Lobo</i>
16	1660621	STEVE STEPHEN PONISAKE	<i>Steve Stephen Ponisake</i>
17	1660622	ANGELA ANISHA	<i>Angela Anisha</i>
18	1660623	ANJANA K S	<i>Anjana K S</i>
19	1660624	CLARINE RENIE DELILAH J	<i>Clarine Renie Delilah J</i>
20	1660625	JUSTEENA THOMAS	<i>Justeena Thomas</i>
21	1660627	NIKITA NAYAR	<i>Nikita Nayar</i>
22	1660629	POOJITHA.M	<i>Poojitha.M</i>
23	1660632	ROSE ANTONY	<i>Rose Antony</i>
24	1660633	RUTH SANDRA H	<i>Ruth Sandra H</i>
25	1660634	Y.CHAITRI GOVARDHANA RAO	<i>Y.Chaitri Govardhana Rao</i>
26	1660636	KARTHIK E	<i>Karthik E</i>
27	1660637	ROSHIN CHERIAN	<i>Roshin Cherian</i>
28	1660640	FARHEEN ZUBAIR	<i>Farheen Zubair</i>
29	1660641	DHRUPAD U	<i>Dhrupad U</i>
30	1660642	GEORGE F VADAKUMCHERY	<i>George F Vadakumchery</i>
31	1660643	VIGNESH N H	<i>Vignesh N H</i>
32	1660644	SHAARU D A	<i>Shaaru D A</i>
33	1660645	YALLAREDDYGARI MANOJKUMAR REDDY	<i>Yallareddygari Manojkumar Reddy</i>
34	1660646	VAIBHAV P THOMAS	<i>Vaibhav P Thomas</i>
35	1660647	P AMAR	<i>P Amar</i>

Puli



36	1660648	SANGEERTH VINOD	<i>Sangeetha</i>
37	1660649	PRIYANKA BISWAS	<i>Priyanka Biswas</i>
38	1660650	ASHISH PRIYADERSHY	<i>Ashish Priyadershya</i>
39	1660651	NANDITA NAIR	<i>Nandita Nair</i>
40	1660652	MALLAVAJJALA SIDDARTHA ATHREYA	<i>Mallavajjala</i>
41	1660653	JERRIPOTHULA SAIJEETH	<i>Jerripothula Saijeeth</i>
42	1660654	MAYOOGH GIRISH	<i>Mayoogh Girish</i>
43	1660655	UTSAV DIHINGIA	
44	1660656	PROTTUSH DUTTA	<i>Prottush Dutta</i>
45	1661014	ATHINA ANN THOMAS	
46	1760308	ALWIN C VARGHESE	<i>Alwin C Varghese</i>
47	1760453	MEKA KUMAR VIGNESWAR REDDY	<i>Meka Kumar Vigneshwar Reddy</i>
48	1760601	ABIN CHALSON	<i>Abin Chalson</i>
49	1760603	ALDRIN LOUIS FIGURADO	<i>Aldrin Louis Figurado</i>
50	1760604	ANISH T CYRIAC	<i>Anish T Cyriac</i>
51	1760605	ARVIND R	<i>Arvind R</i>
52	1760606	ASHISH G NAIR	<i>Ashish G Nair</i>
54	1760607	B RISHITH RAO	<i>B Rishith Rao</i>
55	1760608	BENSON THOMAS	<i>Benson Thomas</i>
56	1760613	MACHERLA PRAJWAL	<i>Macherla Prajwal</i>
57	1760614	MANDLE SANDEEP REDDY	<i>Mandle Sandeep Reddy</i>
58	1760615	MOPURI AKHIL KUMAR REDDDY	<i>Mopuri Akhil Kumar Reddy</i>
59	1760618	RAKUL A V	<i>Rakul A V</i>
60	1760622	ANAKHA ELIZABATH GEORGE	<i>Anakha Elizabeth George</i>
61	1760623	ANITA JOSE	<i>Anita Jose</i>
62	1760625	KELLY MARTIN	<i>Kelly Martin</i>
63	1760627	ROSE RAJAN	<i>Rose Rajan</i>
64	1760628	SAI RAKSHITHA	
65	1760630	SWETHA SUNITH	<i>Swetha Sunith</i>
66	1760631	G R BHARATH	<i>G R Bharath</i>
67	1760632	NIKITA ELIZABETH JOSEPH	<i>Nikita Elizabeth Joseph</i>
68	1760633	JONNALA VENKATA VISHNU	<i>Jonnala Venkata Vishnu</i>
69	1760634	KOVVURU HEMANTH CHARAN REDDY	<i>Kovvuru Hemanth Charan Reddy</i>
70	1760636	PEDDAKOTLA SANJAYDATTA	<i>Peddakotla Sanjaydatta</i>
71	1760637	POTU HARSHIT	<i>Potu Harshit</i>
72	1760639	KUSUMA B	<i>Kusuma B</i>
73	1760640	MARIYA SNEHA	<i>Mariya Sneha</i>
74	1760642	MOGALLURI SRIKANTH	<i>Mogalluri Srikanth</i>
75	1760643	NANDIMANDALAM NAGENDRA SAI	<i>Nandimandalam Nagendra Sai</i>

Ravi

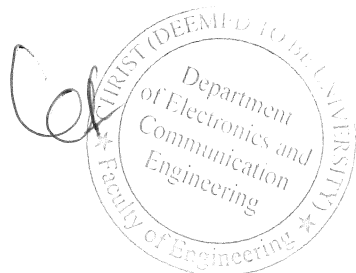


76	1760644	CHRISTINA T J	Christina T J
77	1760645	GUNDLAMADUGU MADHUKIRAN	
78	1760646	LOMADA SAI PRASAD REDDY	Prasanna
79	1760647	KANEKAL NUZHATH SAMREEN	Nuzhat
80	1760648	VEDIKA VINITHA RAJ	Vedika
81	1760649	ABHISHEK KUMAR	Abhishek
82	1760651	AMAL J DEV	Amal J Dev
83	1760652	ARCHIT THAKURGOTA	Archit
84	1760654	CHITTIPROLU AAKANKSH	Chittiprolu
85	1760655	KETHIREDDY ROHITH KUMAR REDDY	Rohith
86	1760656	POLAKALA DINESH REDDY	Dinesh
87	1760659	A.HARIRAJ	
88	1760660	JAYAM LIKITHA	Jayam
89	1760661	ANNAVAJALA ABHIRAM SAI	Abhiram
90	1760662	ANTONY JOSEPH T	Antony Joseph T
91	1760663	MOHD ZAID	Mohd Zaid
92	1760664	NARAYANA PADMANABHAM TEJA GANESH	
93	1760670	AJAY S	Ajay S
94	1760602	AKHIL M VARKEY	Akhil M Varkey
95	1760609	DEEPAK KANNAN	Deepak Kannan
96	1760610	DION VARGHESE PRAVEEN	Dion Varghese Praveen
97	1760619	RONIE MARIA MARCELO S	Ronie Maria Marcelo S
98	1760621	A S DEVI DHARSHINI	A S Devi Dharshini
99	1760629	SUMI SEKHAR	Sumi Sekhar
100	1760650	AKHIL BENNY	Akhil Benny
101	1760653	BASAPPA JAMPAPURAM RAJITH	Basappa Jampapuram Rajith
102	1760673	ANTHAPU UMA DEVI	Anthapu Uma Devi
103	1760617	POLAMARASETTY SUSHMANTH	Sushmanth
104	1760620	SHASHANK RAWAT	Shashank Rawat
105	1660601	AJAY RAMAKRISHNA MENON	
106	1760652	ARCHIT THAKURGOTA	Archit
107	1860602	EDWIN ABRAHAM THOMAS	Edwin Abraham Thomas
108	1860603	EUGENE ANTONY BABU	Eugene Antony Babu
109	1860604	JUJJAVARAPU RAJ MOULI	Jujjavarapu Raj Mouli
110	1860605	KANCHAM ASHISH REDDY	Kancham Ashish Reddy
111	1860606	KANUMALLI BHARATH CHANDRA	Kanumalli Bharath Chandra
112	1860607	KHODEGADE MOHAMMAD TOUKEER	Mohammad Toukeer
113	1860608	MELVIN PETER CHEERAN	Melvin Peter Cheeran
114	1860609	MUDUNURI YASWANTH VARMA	Mudunuri Yaswanth Varma
115	1860610	NAMITH N	Namith N

Abhi

116	1860611	NANDYALA VEERA MEGHA CHANDRA REDDY	<i>Veera Megha</i>
117	1860613	NEERAJ PUPPALA	<i>Neeraj Puppala</i>
118	1860614	NIRANJAN.S	<i>Niranjan</i>
119	1860617	SEGU VENKATA SAI PAVAN KUMAR	<i>Seegunathan</i>
120	1860618	TAMATAM VENKATA SAI PRAVEEN REDDY	<i>Tamatam</i>
121	1860619	TEJAS JAYAN	<i>Tejas Jayan</i>
123	1860621	VISHNU AJAY	<i>Vishnu Ajay</i>
124	1860623	CHELSEA AURELIA	<i>Chelsea Aurelia</i>
125	1860625	GADDAM SAI VENNELA	<i>Gaddam Sai Vennela</i>
126	1860626	GLADIS P SAJI	
127	1860627	HALMANDGE AISHWARYA BHIMASHANKAR	<i>Halmandge</i>
128	1860628	HARINI N	<i>Harini N</i>
129	1860629	LAVANYA K	<i>Lavanya K</i>
130	1860630	SAI DHIKSHITA BHANDARU	<i>Sai Dhikshita Bhandaru</i>
131	1860631	AJAY KODIGANDLA	<i>Ajay Kodigandla</i>
132	1860633	BHAVANA P	
133	1860634	SHARON JOSE	<i>Sharon Jose</i>
134	1860635	RAGHUBIR	<i>Raghubir</i>
135	1860636	GUMMANUR VIVEK	<i>Gummanur Vivek</i>
136	1860637	M DHARANEESH	<i>M Dharaneesh</i>
137	1860639	ALLE NITHISH REDDY	
138	1860640	KETHAMREDDY NANDI VARDHAN REDDY	<i>Kethamreddy</i>
139	1860641	PALLAPU YOSHNITHA SONJA	<i>PYS.</i>
140	1860642	MIRUTHULA J	
141	1860643	BANDI SUPRIYA	<i>Supriya</i>
142	1860644	ARNOLD ROY NAZARETH	
143	1860645	BANKA TEJA	<i>Banka Teja</i>
144	1860646	CALEB BHASKAR	<i>Caleb Bhaskar</i>
145	1860647	CHILAKALA LAKSHMI GURU RAGHAVENDRA SAGAR	<i>Chilakala</i>
146	1860648	HARSH WARDHAN TEWARI	<i>Harsh</i>
147	1860649	NAGULAPATI SUDEEP REDDY	
148	1860650	PRATIK KRISHNA PORTE	<i>Pratik</i>
149	1860651	S.KANISHKQ	
150	1860652	SIDDAVATAM JAYA BHARATH REDDY	<i>Siddavatam</i>

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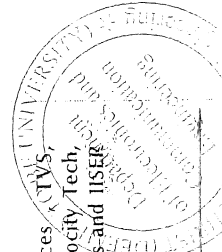


15 February 2020

Time	Session						
9.15 A.M- 10.00 A.M	Inauguration						
10.15 A.M- 11.30 A.M	Panel Discussion- Latest Trends in E-Mobility: Indian Context <ul style="list-style-type: none"> - Present EV Scenario in India: India Specific EV Solutions & Deployment - Battery Technology: Battery Sciences, Battery Management System & Battery Disposal - EV Charging Infrastructure: Indian Scenario, Smart Grid & Renewable Integration - EV Standards, Policies & Regulations - Ecosystem for E Mobility Lab development 						
11.30 A.M- 11.45 A.M	Tea Break						
11.45 A.M- 12.30 P.M	<table border="1"> <tr> <th>Venue</th> <th>Topic</th> </tr> <tr> <td>First Block Auditorium</td> <td>Third Block Auditorium</td> </tr> <tr> <td>Session-1</td> <td>EV/HV Powertrains & Electric Drives</td> </tr> </table>	Venue	Topic	First Block Auditorium	Third Block Auditorium	Session-1	EV/HV Powertrains & Electric Drives
Venue	Topic						
First Block Auditorium	Third Block Auditorium						
Session-1	EV/HV Powertrains & Electric Drives						
12.30 P.M - 1.15 P.M	Tea Break						
1.15 P.M- 2.00 P.M	<table border="1"> <tr> <th>Session-2</th> <th>Topic</th> </tr> <tr> <td>Autonomous Vehicles</td> <td></td> </tr> </table>	Session-2	Topic	Autonomous Vehicles			
Session-2	Topic						
Autonomous Vehicles							
2.00 P.M- 2.45 P.M	<table border="1"> <tr> <th>Session-3</th> <th>Topic</th> </tr> <tr> <td>Automotive Electronics</td> <td></td> </tr> </table>	Session-3	Topic	Automotive Electronics			
Session-3	Topic						
Automotive Electronics							
2.45 P.M- 3.15 P.M	Tea Break, E-Mobility Stall Visits & Networking						
3.15 P.M- 4.00 P.M	<table border="1"> <tr> <th>Session-4</th> <th>Topic</th> </tr> <tr> <td>Ecosystem for E Mobility Lab Development</td> <td></td> </tr> </table>	Session-4	Topic	Ecosystem for E Mobility Lab Development			
Session-4	Topic						
Ecosystem for E Mobility Lab Development							

CEOs and Industry experts of OEMs in E-Mobility: Mahindra Electric, Safran Engineering Services, Meher E-Mobility, SEG Automotive, LDRA, Numocity Tech, iAmps & Hz, IEEE and Professors from IIT Madras and IISER Trivandrum will speak at the above sessions.

[Signature]



Dr Fr Abraham VM
Hon. Vice Chancellor,
CHRIST (Deemed to be University)

Mr Damodran Subramanian
MD, Safran Engineering Services India

Mr Harish Mysore
Senior Director, IEEE India Operations

Dr Fr Benny Thomas
Director, School of Engineering & Technology

Dr Anil Pinto
Registrar,
CHRIST (Deemed to be University)

Organising Committee

Dr Preethi Jain
Director Philanthropy IEEE
Fr Antony Puthussery
Campus Director, School of Engineering & Technology

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Dean, School of Engineering & Technology

Dr Joseph Rodrigues
Professor & Head, Department of EEE
PoC, E-Mobility R&D Facility

Dr Gurumoorthy S Hebbar
Professor & Head, Department of ME & AE

Dr Inbanila K
Professor & Head, Department of ECE



E-Mobility Research & Development Centre
School of Engineering & Technology
Bangalore Kengeri Campus
CHRIST (Deemed to be University)



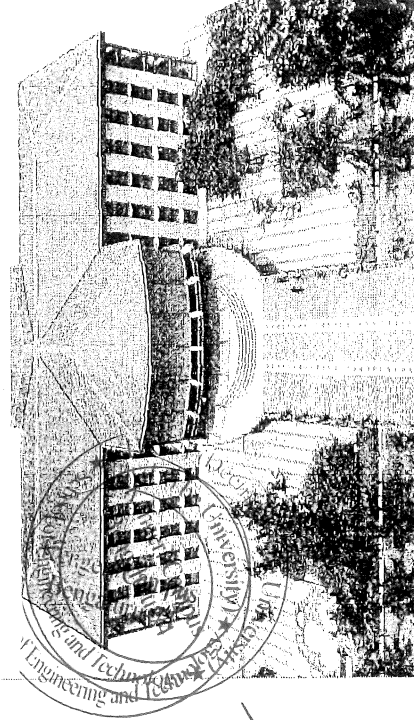
Congrave of
Latest Trends in
E-Mobility: Indian Context

15 February 2020

Organized by

**E-MOBILITY RESEARCH AND
DEVELOPMENT CENTER**

at
School of Engineering & Technology
Bangalore Kengeri Campus
CHRIST (Deemed to be University)



CHRIST (Deemed to be University) was born out of the educational vision of Sr Kuriakose Elias Chavara, an educationalist and social reformer of the nineteenth century in South India. He founded the first Catholic indigenous congregation, Carmelites of Mary Immaculate (CMI), in 1831 which administers CHRIST (Deemed to be University).

Established in 1969 as Christ College, it undertook path-breaking initiatives in Indian higher education with the introduction of innovative and modern curricula, insistence on academic discipline, imparting of Holistic Education and adoption of global higher education practices with the support of creative and dedicated staff. The University Grants Commission (UGC) of India conferred Autonomy to Christ College in 2004 and identified it as an Institution with Potential for Excellence in 2006. In 2008 under Section 3 of the UGC Act, 1956, the Ministry of Human Resource Development of the Government of India, declared the institution a Deemed to be University, in the name and style of Christ University. One of the first institutions in India to be accredited in 1998 by the NAAC, and subsequently in 2004 and 2016, CHRIST (Deemed to be University) has the top grade 'A' in the 4-point scale.

The multi-disciplinary University which focuses on teaching research and service offers Bachelors to Doctoral programmes in human resources, social sciences, science, commerce, management, engineering, education, and law to over 21000 students. The campus is a living example for the harmonious multiculturalism with students from all the states of India and around 60 different countries. CHRIST (Deemed to be University) publishes six peer-reviewed research journals and has published more than 300 books in Kannada and English. A promoter of sports, music and literary activities, it is a nurturing ground for creative excellence.

About School of Engineering & Technology:

School of Engineering & Technology at CHRIST (Deemed to be University) was started on 14th September 2009 to promote quality Technical Education in Engineering. The goal of SOE is to develop effective leaders in Engineering/Technology with ethical and human values to reshape the nation.

The Engineering Service Assisted Integrated Learning (E-SAIL) is a service learning initiative of the SOE, Christ (Deemed to be University). The program, is designed based on the societal needs the key-being "Innovation in Service to Public".

ABOUT IEEE

IEEE and its members inspire a global community to innovate for a better tomorrow through its more than 423,000 members in over 160 countries, and its highly cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted "voice" for engineering, computing, and technology information around the globe. IEEE Student Branches have played a vital role in improving the technical and leadership qualities of engineers and aspiring engineering graduates making them employable and skilled in their respective fields.

Safran Engineering Services is part of the Safran group and a subsidiary of Safran Electrical & Power. The company provides hi-tech engineering services to the aerospace, energy and ground transport industries. With its 3,700 engineers and technicians, the company has many operating entities around the world (France, Germany, United Kingdom, Spain, United States, Mexico, Morocco, Canada, Brazil and India), which combine their expertise in electrical systems, aerostuctures, mechanical and software systems and on-board electronic systems.

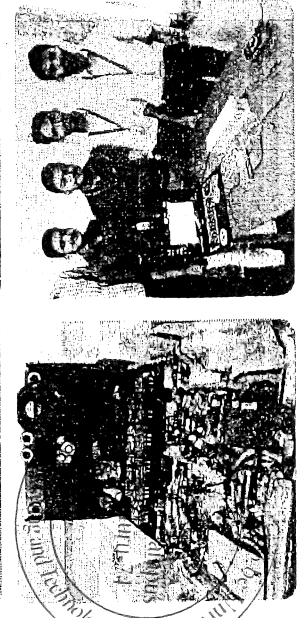
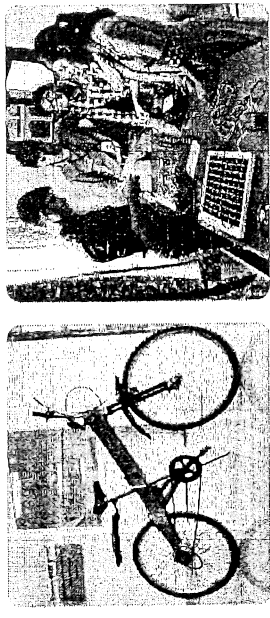
Safran Engineering Services maintains the highest standards of quality in each of its activities, giving priority to customer satisfaction, meeting commitments, continuous improvement and mobilization of all employees.

E-Mobility Research and Development Center

Electric Vehicle revolution will improve quality of life by reducing pollution in our cities, create new jobs, economic development opportunities and reduce energy spending. In a world where oil is a limited resource, electricity as a source for transportation is not only a smart investment but an inevitable one.

Objectives:

The facility aims at developing competency in Research & Product Development in avenues that include improved Charging infrastructure, Battery Sciences, Smart Electric Drive systems, IoT technologies for EVs, Connected Vehicles, Hybrid Power trains, Battery & Energy Management Systems, Vehicle to Grid integration and improved Power System Dynamics.



Product Development:

- High end EV Simulator Software, IPG Carmaker and Hardware simulator setup for performance testing, vehicle dynamics, power train based research.
- ECU development for braking mechanism in Electric vehicles
- VANET Based Electric vehicle research
- Three wheeler development
- Battery management system for EV
- E-Bicycle prototype, Two Wheeler E- Ambulance and Solar E-Buggy
- Smart E-wheel chair
- Hybrid Electric Vehicle Test Bench
- Vehicle to Grid Integration studies
- Ultrawide band communication for Intelligent vehicle.
- Signal processing strategies for wireless sensor networks in smart electric vehicles

Annual Conclave

The Indian Electric Mobility is on its transition from demonstration stage to large scale Commercialization stage. The Government of India initiatives such as National Electric Mobility Mission Plan 2020 and other initiatives has brought interest towards E-Mobility in the automotive industry. But the lack of infrastructure and the low range factors are not making them popular among the masses. The Conclave aims to provide a platform for eminent personalities ranging from policy makers to standard developers, from industry experts to academicians, who could interact and evolve ideas. The conclave would cater to Autonomous vehicles, Automotive electronics, Vehicle Regulation Standards, EV/HEV Powertrains, Power System Dynamics and Battery Sciences. The E-mobility industry is an exciting avenue that caters to integration of varied Engineering fields and the Conclave would be a chance to explore it..

Registration for participants:

The Registration is free and invites will be provided on a First come First Serve basis due to limitation in seats. Speakers from reputed E-Mobility Industry, National Institutes and Government Policy Makers, Industry Personnel and Researchers in the area of E-Mobility are expected to be part of the Conclave.

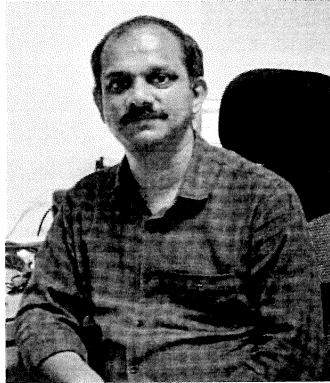
Posters are invited in the area of E-Mobility pertaining to Automotive Electronics, Autonomous Vehicles, Electric & Hybrid Power Trains, Battery Sciences, Battery & Energy Management, Vehicle Modeling, Power System Dynamics and Charging Infrastructure. Three best-posters will be awarded. The last date for submitting posters is 15th January 2020.



To Register:

<https://forms.gle/BlancAqCp4>

About the speaker



Dr. M. M. Shaijumon
Professor, IISER, Trivandrum

Dr. Shaijumon obtained his M.Sc in Physics from St. Thomas college (University of Calicut, India) and Ph.D in Physics from Indian Institute of Technology Madras. He spent more than 3 years in the United States as a postdoctoral research fellow at Rensselaer Polytechnic Institute, Troy, New York and Rice University, Houston, Texas. Later he spent nearly a year and half as a senior postdoctoral researcher at Paul Sabatier University, Toulouse, France. He joined IISER Thiruvananthapuram as an Assistant Professor in School of Physics in 2010 and he is an Associate Professor since 2017.

Dr. Shaijumon's research interests are in the area of nanomaterial's and energy storage and conversion, focusing on the synthesis of novel nanostructures, design and development of efficient energy storage devices, mostly looking at the materials science and physics of these systems. He has three US patents and two Indian patents filed. He has published more than 80 journal papers with more than 8200 citations and with an h-index of 42. He is an editorial member for the International journal, Graphene. He received the DAE Young Scientist Research Award in 2012. He is one of the co-inventors of 'paper battery', a flexible nano-composite based energy device, which has been patented.

