



SAEINDIA INTERNATIONAL MOBILITY CONFERENCE 2022

SUSTAINABLE MULTI-MODAL MOBILITY ECOSYSTEM

12 - 14 OCTOBER 2022

Hilton Bengaluru Embassy Manyata Business Park

Program Booklet

STEERING COMMITTEE

Mr. Mahesh Babu
Patron - SIIMC 2022
CEO, Switch Mobility

Mr. Guruprasad Mudlapur
Chair - Steering Committee
Managing Director, Bosch India

Mrs. Rashmi Urdhwareshe
Co-Chair - Steering Committee
Former Director, ARAI

Mr. C.V. Raman
Member - Steering Committee
CTO, MSIL

Dr. Arunkumar Sampath
Member - Steering Committee
Cluster Head Electric Vehicles - TCS

Mr. Murli Iyer
Member - Steering Committee
Executive Global Advisor - SAE Intl

Mr. Deepak Sawkar
Member - Steering Committee
Sr. Vice President - MSIL

Mr. Damodaran Subramanian
Member - Steering Committee
Former MD, Safran Engineering

Mr. Dinesh Tyagi
Member - Steering Committee
Director - ICAT

Mr. Velusamy R
Member - Steering Committee
Sr. Vice President - M&M

Mr. S. Ramanathan
Member - Steering Committee
Managing Director - ATS

Dr. Reji Mathai
Member - Steering Committee
Director, ARAI

Mr. N. Balasubramanian
Member - Steering Committee
Vice President - RNTBCI

Dr. N. Saravanan
Member - Steering Committee
CTO - Ashok Leyland

Mr. Anurag Garg
Member - Steering Committee
Managing Director - Vitesco India

Ms. Latha Chembrakalam
Member - Steering Committee
Vice President - Continental India

ORGANISING COMMITTEE

Mr. Munirathinam Dhananjayan
Chair - Organising Committee
Founder & MD, Focus Engineering

Dr. K.C Vora
Mentor - Technical Committee
Professor Emeritus, CoEP

Dr. Manish Jaiswal
Chair - Technical Committee
Continental Automotive

Mr. Vijai Gopalakrishnan
Co Chair - Technical Committee
Delivery Mgr, TCS - GM Partnership

Mr. Vijayalayan R
Co Chair - Technical Committee
Manager Control Design Appl. Engg., Mathworks

Mr. Alok Jaitley
Chair - Industry Interface Committee
Executive Vice President, MSIL

Mr. Umesh Nayaka
Co Chair-Industry Interface Committee
Engineering Manager, GMTCI

Mr. Girish Ramaswamy
Chair - Event Management Committee
Head - Engg., Vitesco Technologies

Mr. Yogesh Nagendiran
Co Chair-Event Management Committee
Deputy Manager, RNTBCI

Mr. Prasad M.P.
Chair - Media Committee
President, Agnito Insights

Ms. Deepa Sasidharan
Co Chair - Media Committee
Head-Corp. Comm., Continental

Mr. Deepak Joshi
Chair - Exposition Committee
Director Technology, Volvo India

Mr. Deevakar.K
Co Chair - Exposition Committee
Deputy GM, ZF Tech Centre India

Prof. Suresh Nagesh
Chair - Academia Interface
Professor, PES University

Mr. K.P. Murthy
Co Chair - Academia Interface
Consultant, Bosch India

Mr. Rakesh Bidre
Chair - Finance Committee
Head - Virtual Integration, TCS

Mr. Pradeep C
Chair - TechHive Committee
Associate Director, OLA Electric Technologies
Pvt Ltd.

Technical Program Committee

Mr. Abhay Anna Khonje
BGSW

Mr. Ankur Gupta
Maruti Suzuki

Mr. Arun Shankar
Continental Automotive

Dr. Himadri Das
TVS Motors

Mr. Mahesh Shinde
Tata Motors

Dr. Manish Garg
TVS Motors

Mr. Muralidharan M
Hindustan Petroleum

Mr. Nagesh Karanth
Consultant

Dr. Nataraj
RV College of Engg.

Mr. Ramachandran S
Infosys

Mr. Rashmi Rao
MathWorks

Mr. Santhoshkumar Palati
ZF

Prof. Vaibhav Kulkarni
MIT Pune

Mr. Vinod Venkateswaran
Infosys

Dr. Vivek Venkobarao
Vitesco Technologies

SIIMC 2022 – Mobilisong

Engine, Control, Motion, Fuel Station
Oh Gosh! we are the wheels of the Nation
So many different terrains, we had to gear
So many difficult corners, we had to steer

Slow to a fast lane – 75 years and moved along
SAE in India – 25 years and we are the song
Education, value & belief became our salvation
Product, service, technology, and innovation

But what took us here, won't take us there
Siloes must be broken, change we dare
Mobility in Land, Air or Sea – all needs relation
Obsessive collaboration and transformation

SIIMC calling from 12-14 October
Oh Yes! jump the fence and come over
Sustenance, circularity, and preservation
Oh Gosh! we are the wheels of the Nation

Dr. Manish Jaiswal

Chair - Technical Committee
Continental Automotive

SIIMC 2022 - PROGRAMME AT A GLANCE

SIIMC 2022 - PROGRAMME AT A GLANCE					
07:30-18:00	Registration - 12th Oct				
	GBR 2	Studio 1	Studio 2 & 3	Studio 6	Studio 7
9:00-10:45	S 1 Simulation and Testing-1	S 2 Hybrid & EV -1	S 3 Emission, Environment and Sustainability-1	S 4 Autonomous & Connected Vehicle-1	S 5 Manufacturing, Materials & Lightweight Solutions-1
10:45-11:00	High Tea Morning				
11:00-12:40	Opening Ceremony				
12.40-13:00	Plenary Session: EV and Battery Technology				
13:00-14:00	Lunch				
14:00-15:45	S 6 Simulation and Testing-2	S 7 Hybrid & EV -2	S 8 Vehicle Electronics & Software -1	S 9 Autonomous & Connected Vehicle-2	S 10 Manufacturing, Materials & Lightweight Solutions-2
14:00-15:45	TechHive 1 (in parallel with Technical sessions)				
15:45-16:10	High Tea Evening				
16:10-17:30	Plenary Session 1: EV, Fuel Cells & Net Zero				
17:30-18:30	Panel Discussion 1: Electric Vehicles - Reliability and Safety Challenges				
07:30-18:00	Registration - 13th Oct				
9:00-10:45	S 11 Simulation and Testing-3	S 12 Hybrid & EV -3	S 13 Emission, Environment and Sustainability-2	S 14 Vehicle Dynamics, Active Safety & Control-1	S 15 Manufacturing, Materials & Lightweight Solutions-3
10:45-11:00	High Tea Morning				
11:00-12:30	Plenary Session 2: Autonomous / Connected / Smart Vehicles				
12:30-13:30	Lunch (Day 2)				
13:30-15:30	S 16 Simulation and Testing-4	S 17 Hybrid & EV -4	S 18 Emission, Environment and Sustainability-3	S 19 Manufacturing, Materials & Lightweight Solutions-4	S 20 Vehicle Dynamics, Active Safety & Control-2
13:30-15:30	TechHive 2 (in parallel with Technical sessions)				
15:30-16:00	High Tea Evening				
16:00-17:00	Plenary Session 3: Vehicle Safety and Powertrain				
17:00-18:00	Panel Discussion 2: Going Autonomous & Connected - A safe road ahead?				
18:00-18:30	Fire Side Chat1: Sustainability & Automotive ecosystem				
18:30-19:00	Vote of Thanks for SC, OC and Technical Committee				
19:00-21:00	Cultural Program & Gala Dinner				
07:30-18:00	Registration - 14th Oct				
9:00-10:45	S 21 Simulation and Testing-5	S 22 Autonomous & Connected Vehicle-3	S 23 Emission, Environment and Sustainability-4	S 24 Vehicle Electronics & Software -2	S 25 Vehicle Dynamics, Active Safety & Control-3
10:45-11:00	High Tea Morning				
11:00 - 12:30	Plenary Session on Multi-Modal Mobility				
12:30-13:00	Fire Side Chat 2: Electrification and Vehicle Safety				
13:00-14:00	Lunch				
14:00 -15:45	S 26 Emission, Environment and Sustainability-5	S 27 Multiple Modes of Mobility-1	S 28 Hybrid & EV -5	S 29 Vehicle Electronics & Software -3	S 30 Simulation and Testing-6
15:45 - 16:10	High Tea Evening				
16:10-17:30	Plenary Session 5: Automotive Sustainability				
17.30-18.35	Valedictory Ceremony & Closure				

PLENARY SESSION

DAY1 : October 12, 2022

Inaugural Session 11:00 - 13:00	
Welcome Note	Mrs. Rashmi Urdhwareshe President, SAEINDIA
What to look forward at SIIMC 2022	Mr. Munirathinam Dhananjayan Founder & MD, Focus Group
Relevance of the Conference theme - Global Prespective	Dr. Sri Srinath President, SAE International
Conference theme - National Prespective	Mr. Mahesh Babu CEO - India, Switch Mobility
Chief Guest Address	Dr. Murugesh R Nirani Minister of Large and Medium Industries, Government of Karnataka
Guest of Honour - The Role of Energy Efficiency and Multi Modal Mobility in Sustainable Transportation	Mr. Gerhard Meister Vice President, Business Field Electrification, AVL
EV and Battery Technology	Shri Randheer Singh Director - Electric Mobility, NITI Aayog
Vote of Thanks & Memento Distribution	Mr. Damodaran Subramaniam Section Chair, SAEINDIA - Bengaluru Section

Plenary Session 1 16:15-17:30	
Session Chair	Dr. Raman Venkatesh COO, SAE International
Achieving Net Zero - A Global Goal	Mr. C V Raman, CTO - Maruti Suzuki
Realizing Next Gen Mobility: Faster with Simulations	Mr Ramnik Singh, Head India - Operations, Gamma Technologies
Hydrogen mobility - Well to Wheel	Dr. SSV Ramakumar, Director - R&D, Indian Oil

Panel Discussion 1 17:30-18:30	
Session Moderator	Mr. Hormazd Sorabjee Autocar India
Electric Vehicle - Reliability and Safety Challenges?	Mr. Sunil Motwani Country Manager, MathWorks
	Mr. Anand Deshpande Sr. Deputy Director, ARAI
	Mr. Karthikeyan Palanisamy Co-Founder & CTO, Zeon Charging
	Shri Surya Sen Director - IT, BMTC
	Mr. Xabier Eskibel Segment Head, UNO Minda

PLENARY SESSION

DAY2 : October 13, 2022

Session Inauguration

11:00-11:15

Dr. Ashwath Narayan

Minister - Skill Development, Entrepreneurship & Livelihood, Govt. of Karnataka

Plenary Session 2

11:15-12:30

Session Chair

Mr. Amar Variawa

Country Director - Public Affairs, Michelin India Private Limited

Smart & Sustainable Mobility - Now & the Future

Dr. Aniruddha Mukhopadhyay

Fellow and Lead Field Chief Technologist, Ansys - USA

Design & Development of a Smart and Connected E-scooter

Mr. Vinay Harne

CTO, TVS Motors

Software demands and challenges for the new age Automotive industry

Mr. Anand Bhangre

Head - Intelligent Mobility, FEV

Plenary Session 3

16:00-17:00

Vehicle Safety

Mr. Brian McMurray

President, General Motors - Korea

Autonomous Vehicles

Dr. Krishna Konda

Deputy general Manager , XA Team, ZF

New Age Propulsion for Tomorrow

Mr. Dwarka Simili

Head - Systems Engineering, BorgWarner

Panel Discussion 2

17:00-18:00

Session Moderator

Mr. Shinto Joseph

Director - LDRA

Going Autonomous & Connected - A safe road ahead?

Mr. Jaidev V

Head of Engineering - Sensorics & ADAS, Continental

Mr. Shivalik Prasad

Vice President, Sibros

Mr. Sirish Batchu

President - Product Engineering, Embitel Technologies

Mr. Soj Thomas

Head of Engineering, Bosch

Fireside Chat

18:00 - 18:30

Mr Prashant Doreswamy, President, Continental Automotive India - curated by **Mr. Deepangshu Dev Sarmah**, Mobility Outlook (Sustainability & Automotive ecosystem)

PLENARY SESSION

DAY3 : October 14, 2022

Plenary Session 4 11:00-12:30	
Session Chair	Mr. Javaji Munirathinam CEO, Javaji Consulting
UAM - Future Roadmap for India	Prof. Satya Chakravarty IIT Madras
Hyperloop	Dr. Bala Bharadvaj Vice President - Engineering, QuinTrans
Roadmap for Multi Modal Mobility	Mr. Jyothilal K R Government of Kerala
Sustainable Mobility – Transformation trends from Rail Industry	Mr. Ganesha K Vice President - Technology, Wabtec

Fireside Chat 2 12:30-13:00	
Dr. Arun Jaura , CTO, Hero Motocorp - curated by Mr. Sumantra Bibhuti Barooah , ET Auto (Electrification & Vehicle Safety)	

Plenary Session 5 16:10-17:30	
Role of electronics in catalysing sustainability	Mr. Vivekanand Rao Business Head - Electronic Controls, Vitesco Technologies
Automotive Sustainability	Mr. Vinod Pandey Director - External Affairs, BMW India
Role of the automotive industry in meeting the challenges of global warming	Dr. Raj Ranganathan Vice President - Business Development, Simerics USA
Creating wealth from waste	Mr. Vijay Nirani Managing Director, MRN Group

Valedictory Session 17:30-18:35	
Welcome Note	Mr. N Balasubramanian Vice President – RNTBCI
Prize Distribution (Best Paper, TechHive) - Dr. Vidyashankar , Vice Chancellor - VTU	
Chief Guest Address	Hon'ble Chief Minister Shri Basavaraj Bommai Karnataka
Closure Address	Mr. Guruprasad Mudlapur Joint M.D & CTO, Bosch
Conference Summary and Vote of Thanks	Mr. Munirathinam Dhananjayan Founder and MD, Focus Group

Technical Session 1
9:00-10:45

S 1: Simulation and Testing -1
GBR 2

Session Chair

Mr. Rashmi Rao
Mathworks

Technical Keynote 1:

Vehicle Model Factory – Validated
Digital Twin from Road Measurement

Speaker:

L. Kira
AVL

Technical Keynote 2:

Improvements of Vehicle Dynamics
performance with the help of
Dynamic Driving Simulator

Speaker:

Jens Karasawa Christensen
VI Grade

Paper Title: Material Characterization
of Strain Rate Dependent Elastomers
using Simplified Rubber Material
Model in LS-DYNA

Paper Authors:

Gokula Krishnan
Vesna Savic
Biswajit Tripathy
GM- TCS

Paper Title: Analysis of Hollow Hyper-
elastic gasket filled with Air using
Fluid Cavity Approach

Paper Authors:

Abhay Bhandari
General Motors
Adithya Padiraju
Tata Consultancy Services

Paper Title: CAE approach for
radiator bush dynamic simulation

Paper Authors:

Sandeep Veluguri
Sanjay Gupta
Mandar Kulkarni
Muhammad Ashique Tk
Maruti Suzuki India Ltd

S2: Hybrid & Electric Vehicles -1
Studio 1

Session Chair

Abhay Anna Khonje
Bosch

Technical Keynote:

ICE to BEV

Speaker:

Sachin Wagh
FEV

Paper Title: Method to Improve DPF
Regeneration Performance for
Challenging Driving Profiles

Paper Authors:

Kuldeepak Chaudhari
Akshay Seethanadi Aravind
Marcus Wolter
Shrikant Arale
Prahlad Madhukar
Robert Bosch India Ltd

Paper Title: A Perspective on Battery
Swapping as a Viable Alternative to
Accelerate EV Adoption in India

Paper Authors:

Vinod Venkateswaran
Sreekanta Guptha
Amit Soman
Infosys Ltd

Paper Title: State of charge
estimation of Li ion battery using
Extended Kalman filter and
combined model

Paper Authors:

Aniket Bagade
Abhishek Mandhana
Ameya V Gambhir
HELLA India Automotive Pvt. Ltd

Paper Title: Optimal Control Strategy
using Cloud for a Parallel Topology
Based HEV to Minimize Energy
Consumption

Paper Authors:

Hardik Nagar
Himadri Das
Arjun Raveendranath Sr
TVS Motor Co Ltd
Pradeev Elango
Arulkumaran Mativanan
Indian Institute of Technology Madras

S3: Emission, Environment & Sustainability-1
Studio 2 & 3

Session Chair

Dr. K C Vora
COEP

Technical Keynote:

Hydrogen Economy – Potential for
India as a Global Leader

Speaker:

Pawan Mulukutla
WRI India

Paper Title: CFD Simulation of
Gaseous Fuel Combustion in
Constant Volume Combustion
Chamber using Multi-point Laser
Ignition

Paper Authors:

Prashant Patane
Akshay Chaudhari Ing
Subhash Lahane
M. Nandgaonkar
Government College of Engineering Pune

Paper Title: Simulation study of post-
combustion CO2 adsorption using
adsorbent

Paper Authors:

Maniarasu R.
Murugan Sivalingam
Sushil Rathore
NIT Rourkela

Paper Title: Experimental testing of
spray characteristics of swirler
injector with single/double vane in
LPRE

Paper Authors:

Yagnateja Gangarapu
Kolar Asadali
Manideep Pavuluri
Dinesh Kumar
Hindustan Inst. of Technology & Science

Paper Title: Experimental Studies on
Nano-Second High Voltage Plasma
Ignition in a Constant Volume
Combustion Chamber

Paper Authors:

Avaneesh V
Himabindu M
Ravikrishna Rayavarapu
Ravi Teja
Indian Institute of Science

S4: Autonomous & Connected Vehicles 1 Studio 6

Session Chair

Ramachandran S
Infosys

Technical Keynote:

Engineering autonomous vehicles for world's most challenging roads

Speaker:

Dr. Shanti Medasani
Mathworks

Paper Title: Functional Safety Concept of “Minimum Risk Maneuver” in Conditional Driving Automation (Level 3) vehicles

Paper Authors:

Karthikeyan Balakrishnan
Continental Auto Comp India Pvt Ltd

Paper Title: Design & Implementation of Adaptive Accident Avoidance System for Autonomous Vehicles

Paper Authors:

Dinesh Ponnuswamy
Bosch Global Software

Paper Title: Validation Challenges of Safety of the intended functionalities (SOTIF) risks/hazards

Paper Authors:

Shyma Krishnan
Praveen Venkatesh
Bosch Global Software

Paper Title: Engine Overheating Prediction using Machine learning with Gaussian Mixture Model (GMM)

Paper Authors:

Shrikant Hiwase
Dinesh Krishna
Krishna Jagtap
VE Commercial Vehicles Ltd

S5: Manufacturing, Materials and Lightweight Solutions-1 Studio 7

Session Chair

Mr. Sanjay Nibandhe
ARAI

Technical Keynote:

Paradigm shift - Manufacturing, Materials & Lightweight Solutions

Speaker:

Dr. Devarajan
TVS Motors

Paper Title: Effect of Normalizing Heat Treatment on Material and Mechanical Properties of High Strength Steel Tube for Lift axle of Commercial Vehicles

Paper Authors:

Shiv Chauhan
Shripadraj Ponkshe
Hemant More
Tata Motors Ltd

Paper Title: Role of Thermo-mechanical treatment on Creep Deformation Behavior of Reduced Activation Ferritic Martensitic Steel

Paper Authors:

Prakash Putta
Nageswara Rao GVS
Ragu Nathan Seerangan
Sree Vidyanikethan Engineering College

Paper Title: Study of Strain Ratio Effects on Low Cycle Fatigue Behavior of Dual Phase (DP) Steel

Paper Authors:

Sachin Ratnakar
Asmita Ashok Manwatkar
ARAI India
Tejal Ikhar
VIT, Pune

Paper Title: Effect of solutionising on change in phase morphology. mechanical behavior and Corrosion Behavior for AZ Series as Cast Automotive Magnesium Alloy Components

Paper Authors:

Asmita Ashok Manwatkar
Medha Santosh Jambhale
Prasanna Bhagwan Deshmukh
Prasad Sitakant Phale
Shivam Setia
ARAI India

Technical Session2 14:00-15:45

S6: Simulation and Testing-2 GBR 2

Session Chair

Ankur Gupta
Maruti Suzuki

Technical Keynote:

Balancing of Energy Efficiency, Driving Excitement and Comfort in Battery Electric Vehicles

Speaker:

Manfred Kogler
AVL

Paper Title: Virtual validation of gear shifting lever assembly by impact simulation and correlation with testing

Paper Authors:

Ved Prakash Choudhary
Brahm Pratap
Bhupinder Singh
Amit Pathak
Maruti Suzuki India Ltd

Paper Title: Optimization driven method to balance bolt force & torque in automotive headlamp assebmly

Paper Authors:

Varun Agarwal
Vijayababu Jeyaram
Tata Consultancy Services
Babak Tehrani
General Motors

Paper Title: Experimental approach for the knocking noise source identification & its suppression through lubrication regime optimization in crank-train of an IC engine

Paper Authors:

Durga Prasad Mishra
Vivek Singhal
Ashok Kumar
Rajesh Vats
Prasath P
Maruti Suzuki India Ltd

Paper Title: Mitigation of abnormal injector ticking noise by optimization of hydraulic operational modes of fuel system

Paper Authors:

Ravinder Uniyal
Manish Yadav
Rajesh Vats
Prasath P
Vivek Singhal
Maruti Suzuki India Ltd

S7: Hybrid & Electric Vehicles-2 Studio 1

Session Chair:

Vinod Venkateswaran
Infosys

Technical Keynote:

The AVL Hydrogen Engine for CO2 neutral goods transportation

Speaker:

B. Raser
AVL

Paper Title: Unified Thermal System simulations of an Electric Truck

Paper Authors:

Vikash Kumar
Soumendu Banik
Krishna Challa
Pramod Borado
Daimler Trucks Innovation Center India P

Paper Title: Thermal Analysis of Lithium Ion Battery Pack with Different Cooling Media

Paper Authors:

Pushkar K
Bhaskar Tamma
Manish Agrawal
Sreedhar Madichetty
Nagaraju Napa
Mahendra Engineering College

Paper Title: Thermal and Loss analysis of DAB converter for Electric Vehicle application

Paper Authors:

Chandra B
Afzal Shaik
L&T Technology Services

Paper Title: Thermal Propagation of Li-Ion batteries: a simulation methodology for enhanced and accelerated virtual development

Paper Authors:

Bernhard Brunnsteiner
AVL

S8: Vehicle Electronics & Software-1
Studio 2 & 3

Session Chair:

Arun Shankar
Continental

Technical Keynote:

Building Global Connected Car Platforms – Unearthing Complexity

Speaker:

Suraj Nair
Quest Global

Paper Title: Data driven Simulation of telemetry signals of a car using Machine Learning

Paper Authors:

Rahul Munet
Krishna Revi
Santhosh Kumar Vijaya Kumar
Sushovan Chakraborty
Bosch Global Software

Paper Title: Telematics Smart Testing and Validation Tool

Paper Authors:

Pramod Jagtap
Rakesh Mahali
Shrikant Hiwase
VE Commercial Vehicles Ltd

Paper Title: Cloud based diagnosis algorithm for three-way catalytic converter of an IC engine exhaust system

Paper Authors:

Shwetanshu Singh
Himadri Das
Deepak Mandloi
TVS Motor Co Ltd

Paper Title: Develop Heterogeneous AUTOSAR Adaptive and Classic Applications Using Model-Based Design

Paper Authors:

Shwetha Bhadravathi Patil
Aastha Kanwar
Roy Park
MathWorks

S9: Autonomous & Connected Vehicles2
Studio 6

Session Chair:

Abhay Anna Khonje
Bosch

Technical Keynote:

Edge Computing for Multimodal and Intermodal Mobility

Speaker:

Dr. Arun Sampath
TCS

Paper Title: Thermal Management of a Windshield Mounted Intelligent Forward View Camera

Paper Authors:

Kesav Kumar Sridharan
Navneet Gupta
Steven Sailor
Aptiv

Paper Title: Panoptic Based Camera and Lidar Fusion for Distance Estimation in Autonomous Driving Vehicles

Paper Authors:

Edwin Jose
Manoj Rajan
Mrinalini Patil
Arunkrishna Thayyil Ravi
Aparna P
Tata Consultancy Services

Paper Title: Automatic Radar Obstacle Classification using LSTM

Paper Authors:

Vraj Shah
Rahul Nair
Continental Auto Comp India Pvt Ltd

Paper Title: Multi Sensor fusion for determining Road Quality for Semi Autonomous Vehicles

Paper Authors:

Jaswanth Nidamanuri
Hrishikesh Venkataraman
Trisanu Bhar
IITS

S10: Manufacturing, Materials and Lightweight Solutions-2
Studio 7

Session Chair:

Dr. Shashikanth Karinka
NMAM Institute of Technology (Nitte)

Technical Keynote:

Road ahead for harnessing the merits of additive manufacturing in automotive light weighting journey

Speaker:

N K Vaidya
Tata Motors

Paper Title: Development of Prediction Models for spark erosion machining of SS304 using Regression Analysis

Paper Authors:

Manikandan Natarajan
Ramesh R
Thejasree Pasupuleti
R Silambarasan
Lakshmi Narasimhamu Katta
Sree Vidyanikethan Engineering College

Paper Title: Hole Expansion Characteristics of Advanced High Strength Steel (AHSS) grades and their Effects on Manufacturability in Automotive Industry

Paper Authors:

Thendralarasu Udhayakumar
Shripadraj Ponkshe
Lokesh Paliwal
Swapnali Misal
Tata Motors Ltd

Paper Title: Prediction of optimized design under dynamic loads using kriging metamodel

Paper Authors:

Siddesh S
Swarnendu Bikash Nayak
Tata Consultancy Services
David Freiman
General Motors LLC

DAY2 October 13, 2022

Technical Session 3 9:00 - 10:45

S11: Simulation and Testing-3 GBR 2

Session Chair:

Mahesh Shinde
Tata Motors

Technical Keynote:

Enabling continuous validation for SDV through Virtualization

Speaker:

Renjith P R
ETAS

Paper Title: Advance Cabin Simulation in 1D CAE to Predict Occupants Nose Level Air Temperature

Paper Authors:

Sambhaji Jaybhay
Mohit Varma
Shridhar Kulkarni
Santosh Venu
Sangeet Kapoor
Tata Motors Ltd

Paper Title: Aircraft systems qualification test definition by structural analysis techniques

Paper Authors:

Jayantha Hunisebailu
Pavan Vinjanampati
Collins Aerospace

Paper Title: Modeling and Simulation of a fighter aircraft cabin pressure control system using AMESim

Paper Authors:

Sathiyaseelan A
Hindustan Aeronautic Limited
Arul Mozhi Selvan
National Institute of Technology

Paper Title: A cost-effective approach to attain near-vehicle conditions in coolant circuit of engine test bench

Paper Authors:

Hardik Patel
Vineet Gupta
Nitish Kumar
Kei Hongo
Maruti Suzuki India Ltd

S12: Hybrid & Electric Vehicles-3 Studio 1

Session Chair:

Sujaya Kumar
Volvo

Technical Keynote:

Electric vehicle and it's future prospects

Speaker:

Dr. Anand Gurupatham
Renault-Nissan Technology and Business
Centre India Private Ltd

Paper Title: A Low Cost Self-Driven Electric Three Wheeler with Foldable Ramp for Physically Challenged Persons

Paper Authors:

Dr. Amjad Shaik PhD
Mohammed Shoaib
Gijja Amruth Sai
Pampadiga JAYANTH
Dilip Kumar Gummadi
Mathamu Pavan Kumar
Praveen Thanikonda
Vnr Vignana Jyothi Inst Of Engg Tech

Paper Title: Design and Development of Low-cost Electric Microcar for Urban Commute

Paper Authors:

Dr. Amjad Shaik PhD
Akshith Mallypally

Srinivasa Rao Talluri
Yashwanthreddy Maddi
Sharathchandra Yenepelli
Nived Sathineni
Vnr Vignana Jyothi Inst Of Engg Tech

Paper Title: Carbon Credit Scoring System for Road Vehicles

Paper Authors:

Gowtham Subramanian
Rahul Balasubramanian
ZF Group

Paper Title: Influence of Rotor Geometry on the Circulating Currents of a Delta Connected Electrical Machine

Paper Authors:

Ramesh Pandiyarajan
Yedukondalu Kondaveeti
Jagadish Panchada
ZF India Pvt Ltd

S13: Emission, Environment & Sustainability-2 Studio 2 & 3

Session Chair:

M. Muralidharan
Hindustan Petroleum Corporation
Limited

Technical Keynote:

Current Topics in Engine Combustion and Emissions

Speaker:

Mr. P A Lakshminarayanan
Ex Simpson

Technical Keynote:

Climate Sustainability - Role of ICE in Decarbonization

Speaker:

Mr. Kiran Mulukutla
FEV

Paper Title: Simulation-based approach for DPF calibration to reduce overall development time and improve accuracy and quality

Paper Authors:

Raghu MY
Suraj Rajasekar Sr
RajKumar Thavas
Sandeep S
Bazeer M
Robert Bosch Engrg & Bus Solutions Ltd

Paper Title: Study of effect of ethanol blending on Performance & Fuel economy of naturally aspirated gasoline engine and engine hardware optimization potential

Paper Authors:

Ankit Gupta
Ranjeet Rajak
Ojase Jain
Maruti Suzuki India Ltd

Paper Title: Objective determination of degradation of Lambda sensor with orthogonal least square method

Paper Authors:

Deepak Mandloi
Shaun Tan
Himadri Das
TVS Motor Co Ltd

S14: Vehicle Dynamics, Active Safety and Control-1
Studio 6

Session Chair

N.V. Karanth
Consultant

Technical Keynote:

Vehicle Motion Control (VMC)

Speaker:

Ashok Kumar Jha
ZF

Paper Title: Methodology to Optimize Radiator Fan Induced Steering Wheel Vibration of a Car

Paper Authors:

Uttam Titave
Krishna Nikam
Shrikant kalsule cEng
Kartik Jha
Milind Ambardekar A
Tata Motors Ltd

Paper Title: Valve-Train dynamics calculation, model simulation and actual testing for friction reduction to improve FE

Paper Authors:

Milind Ambardekar A
Narinder Kumar
Sanjay Poonia
Jaspreet Singh
Shailender Sharma
Maruti Suzuki India Ltd

Paper Title: CAE approach to reduce engine mount rumble noise

Paper Authors:

Oaj CHAWLA
Deepali Agarwal
Durga Prasad Mishra
Ganeswar Sahu
Sandeep Veluguri
Sanjay Gupta
Mandar Kulkarni
Maruti Suzuki India Ltd

Paper Title: Noise investigation and mitigation of Mechatronics Brake control Unit

Paper Authors:

Niranjana Suryaprabha
Manish Jaiswal
Continental Automotive

S15: Manufacturing, Materials and Lightweight Solutions-3
Studio 7

Session Chair

Prof. Vaibhav Kulkarni
MIT WPU

Technical Keynote:

Additive Manufacturing-A new frontier

Speaker:

Joe Ajay Alphonse
EOS

Paper Title: Digital simulation of Welding process to optimize Residual Stresses and Microstructure of Welded Suspension Component

Paper Authors:

Shiv Chauhan
Shripadraj Ponkshe
Deodatta Shende
Tata Motors Ltd

Paper Title: Investigations on advanced joining method for Inconel 718 and SS304 dissimilar joints

Paper Authors:

Thejasree Pasupuleti
Manikandan Natarajan
Ramesh R
Sree Vidyanikethan Engineering College
PC Krishnamachary
Tata Motors Ltd

Paper Title: Development of Regression models for laser beam welding of Inconel 718 alloy thin sheets

Paper Authors:

Thejasree Pasupuleti
Manikandan Natarajan
Ramesh R
Sree Vidyanikethan Engineering College
R Silambarasan
BHEL

Paper Title: Investigation on formability of tailored AA7075 thin sheets by friction stir processes

Paper Authors:

Ragu Nathan Seerangan
Venkatesh B
V. Sreedhar
Prakash Putta
Srinivasan N
Sree Vidyanikethan Engg. College

Technical Session 4

13:30 -15:30

S 16: Simulation and Testing-4
GBR Hall

Session Chair

Dr. Vivek Venkobarao
Vitesco Technologies

Technical Keynote:

Virtual Test Driving as Foundation for Functional Safety Validation

Speaker:

Dr. Martin Elbs
IPG Automotive

Paper Title: CAE Method of Generating Composite Unique Fiber Path (CUFP)

Paper Authors:

Vijayasathya Subramanian
GM - TCS

Paper Title: Failure simulation & CAE-testing loop strategy for load case derivation for cable-mounting clamp

Paper Authors:

Dhananjay Patil
Bhupinder Singh
Ved Prakash Choudhary
Manish Kumar
Subiraj Raina
Maruti Suzuki India Limited

Paper Title: To Investigate the failure in sensor assembly due to temperature variational loading, and to provide optimum material solution to avert this failure

Paper Authors:

Durgaprasad Kosgi
Vikrant Kulkarni
ZF India Pvt Ltd

Paper Title: Effect of Initial Assembly Gaps on Thread Strip and Fatigue Assessment of Bolted Joint

Paper Authors:

Tanumoy Kar
Rahil Shaikh
Avinash Verma
Puneet Singh
Eaton Technologies Pvt Ltd

Paper Title: Improved Headlamp Modeling with Fracture through Component level development

Paper Authors:

Niranjan Reddy
Phani Aluru
Ke Dong
Tata Consultancy Services

S 17: Hybrid & Electric Vehicles-4
Studio 1

Session Chair

Ashoka Kumar
Axiscades Technologies Limited

Technical Keynote:

The Thermal System as a Key Differentiator for Performance and Comfort in a BEV

Speaker:

M.Bires
AVL

Paper Title: Model-based Hardware-in-Loop Testing of Battery Management System

Paper Authors:

Preetha V
Jeevan NK
Abilash P
Kurmarao Vavilapalli
TVS Motor Co Ltd

Paper Title: Hardware in Loop Testing of ECUs for automotive transients in EVs

Paper Authors:

Aruna P
Jeevan NK
Kurmarao Vavilapalli

Veeramanikandan M
TVS Motor Co Ltd

Paper Title: Hardware in Loop Testing of ECUs for automotive transients in EVs

Paper Authors:

Aruna P
Jeevan NK
Kurmarao Vavilapalli
Veeramanikandan M
TVS Motor Co Ltd

Paper Title: Electrochemical & Equivalent Circuit Modelling and Validation of Lithium-Ion Battery Cell in GT-AutoLion

Paper Authors:

Nesamani Natarajan
Sateesh Annabathula
Aishwarya Panday
Srinivasa Duddu
Thongbam Singh
Deepa Kesavan
Tata Consultancy Services

Paper Title: Machine learning approaches for Lithium-ion battery health parameters estimation

Paper Authors:

Umita Joshi
Ameya V Gambhir
Abhishek Mandhana
Hella India Automotive Private Limited

Paper Title: Simulation driven digital solution to Coolant filling and deration strategy of Electric Truck coolant circuits

Paper Authors:

Shivakumar Koti
Soumendu Banik
Krishna Challa
Daimler Trucks Innovation Center India

S 18: Emission, Environment and Sustainability-3
Studio 2 & 3

Session Chair

Dr. KC Vora
COEP

Technical Keynote:

TBD

Speaker:

Mr. Adamo Screnci
Hydrogen Refueling Solutions

Paper Title: Challenges and Strategies to Reduce Oil Dilution for BS6 Diesel Applications

Paper Authors:

Kuldeepak Chaudhari
Lakshmi V
Akshay Seethanadi Aravind
Marcus Wolter
Robert Bosch India Ltd

Paper Title: Emission Performance and Catalyst Durability Validation Methodology for Heavy Commercial Vehicle Applications

Paper Authors:

Karthikeyan Subramanian
Sathyanandan Mahadevan
Suresh A
Krishnan Sadagopan
Ashok Leyland Technical Center

Paper Title: Study on Exhaust Particle and Unregulated Emission Characteristics of a Heavy Duty Natural Gas Engine with HCNG Fuel

Paper Authors:

Yaman Sahu
Sithananthan M
Mukul Maheshwari
Sakthivel P
Indian Oil Corp Ltd

Paper Title: Design methodology to restrict Catalyst theft in Passenger Vehicles

Paper Authors:

K.S.Gopala Krishnan
Manas Tripathi
Uttam Kumar Mishra
Maruti Suzuki India Ltd

Paper Title: Cold start HC emission reduction using targeted fuel heating

Paper Authors:

Ravi Teja
Avaneesh V
Ravikrishna Rayavarapu
Himabindu M
Indian Institute of Science

S 19: Manufacturing, Materials and Lightweight Solutions-4
Studio 6

Session Chair

Dr Nataraj
RV college of Engineering

Technical Keynote:

Automotive Lightweighting Strategies: EV and ICE Platforms

Speaker:

Dr. Srinivas Gunti
Tata Motors

Paper Title: Light weighting of a body jig using computational and topology optimization methods

Paper Authors:

Abhijith Naik
saravanakumar shanmugam
Suraj Desai
General Motors Technical Center India

Paper Title: Machinability Studies on Wire Electrical Discharge Machining of Aluminium based Metal Matrix Composite for Automotive Applications

Paper Authors:

B Vishnu Vardhana Naidu
Ramesh R
Lakshmi Narayana Somsole
Thejasree Pasupuleti
Manikandan Natarajan
Sree Vidyanikethan Engineering College

Paper Title: Accurate Material Modeling and Analysis of Fiber-Filled Thermoplastics to enable Light weighting in Automotive Applications

Paper Authors:

Vinod Kavalakkat
Vamsy Godthi
Subhransu Mohapatra
Joel Thambi
Roopali Mallick
SABIC

Paper Title: Cold Spray Repair Process Optimization Through Development of Particle Impact Velocity Prediction Methodology

Paper Authors:

Divyanshu Bhardwaj
Shivayogi S Salutagi
Onkar P Bhise
Kirstyn Roberts
Eaton Technologies Pvt Ltd

Paper Title: Thermoplastic solutions for ev battery protection

Paper Authors:

Naajein Cherat
Marcel Rijnkels
Somasekhar Bobba
Arunachala P
Harindranath Sharma
Vamsy Godthi
SABIC

S 20: Vehicle Dynamics, Active Safety and Control-2
Studio 7

Session Chair

Santhoshkumar Palati
ZF

Technical Keynote:

An Active Safety System to Improve Friction at the Tyre Contact Patch

Speaker:

Dr. Mike Blundell
Coventry University

Paper Title: A new design employing eddy-current braking for automotive application

Paper Authors:

Buddhabrata Chakravorty
Dr. Manish Jaiswal
Continental Automotive

Paper Title: An Automated Procedure for Implementing Steer Input During Ditch Rollover CAE Simulation

Paper Authors:

Tushar Gawade
TCS
Jason Wong
General Motors LLC

Paper Title: Comfort Backup Assist Function

Paper Authors:

Ramagopal BM
Continental Automotive

Paper Title: Characterization of Automotive Seat NVH Performance

Paper Authors:

Uttam Titave
Milind Ambardekar A
Shrikant kalsule cEng
Kartik Jha
Ajitesh Sethi
Tata Motors Ltd

Paper Title: Optimization of Kalman Filter on Accelerometer Data for Automotive Safety Applications

Paper Authors:

Shrikant Hiwase
Pramod Jagtap
Rakesh Mahali
VE Commercial Vehicles Ltd

DAY 3
October 14, 2022

Technical Session 5

9:00-10:45

S 21: Simulation and Testing-5
GBR 2

Session Chair:

Dr. Manish Garg
TVS Motors

Technical Keynote:

How Simulation can be the key enabler from prototyping to production in Electrification

Speaker:

Prasanna Deshpande
Mathworks

Technical Keynote:

Accelerating System Design through Simulation

Speaker:

Raghavendra Bhat
Ansys

Paper Title: Knowledge based integrated parametric product design

Paper Authors:

Pavan Vinjanampati
Barath Kumar Shanmugam
Shrishail Niranjani
Rajasekaran Janakiraman
Collins Aerospace

Paper Title: Application of Mixed Reality (MR) based Remote assistance for disposition & resolution on critical Nonconformance (NC) for aircraft production system during Covid or Post Covid work Environment

Paper Authors:

Sandip Nandgaonkar
Ajith Alex
Mansi Agrawal
Boeing India

Paper Title: Predictive Maintenance of Automotive Component Using Digital Twin Model

Paper Authors:

Shrikant Hiwase
Pramod JAGTAP
VECV

S 22: Autonomous & Connected Vehicles-3 Studio 1

Session Chair:

Mahesh Shinde
Tata Motors

Technical Keynote:

Autonomous Mobility - Future Perspective

Speaker:

Dr. Nagesh Poojary
Continental Automotive

Paper Title: Caption Generation for Traffic Signs Using a Deep Neural Scheme

Paper Authors:

Janarddan Sarkar
ADAS GmbH
Radhika Ramachandran
Continental Automotive

Paper Title: Traffic Object detection and Distance estimation using YOLOV3

Paper Authors:

Jagadeesh Panthathi
ZF India Pvt Ltd

Paper Title: Evolution of ADAS and V2X(Vehicle to vehicle / cloud / infrastructure) for Indian roads and the Challenges thereof

Paper Authors:

Preeti Phatnani
Prasanna N
Sreenivasulu Reddy Vedicherla
Bosch Global Software

Paper Title: Development of Lane Departure Warning System and SiL Testing for AV Systems in India

Paper Authors:

Verma Amar
Rajalakshmi P
Vaibhav R
Venkatesh Perabhattachula
IIT Hyderabad

S 23: Emission, Environment and Sustainability-4 Studio 2 & 3

Session Chair:

Dr. Ajeet Babu
ARAI

Technical Keynote:

Emissions, Environment, and Sustainability

Speaker:

Dr. Sudhakar Umale
Sardar Patel College of Engg.

Paper Title: Production of Methanol by using Formic Acid with Copper as Catalyst

Paper Authors:

Prabakaran B
Pavan kumar Regulavalasa
Venkata Sai Sandeep Chinni
Hindustan Institute Of Tech

Paper Title: Comparative assessment of alumina additive chlorella vulgaris biodiesel effect on coated and uncoated diesel engine

Paper Authors:

Raghurami Reddy Doddipalli
Ratna Kamala Petla
Vidyasagar reddy Gangula
Praveen anchupogu
Hariprasad Tarigonda
R L krupakaran
Sree Vidyanikethan Engineering College

Paper Title: IC Engine Dynamic Oil Life Prediction Using Machine Learning Approach

Paper Authors:

Santosh Jangamwadimath
Shashwat Suyash
Priyamvad Priyadarshi
Daimler Trucks Innovation Center India
Chirantan Gayakwad
Vishal Pattanashetty
Nalini Iyer
Ashwin Kubasadgoudar
Nagaraj Banapurmath
KLE Technological University
Shashidhar Shiva
Mercedes Benz Research & Development

Paper Title: Assessment of Non-Conventional Fuels on a small size PFI Engine

Paper Authors:

Harshit Kaushik
Abha Rani
Nishant Sarna
Maruti Suzuki India Ltd

S 24: Vehicle Electronics & Software-2 Studio 6

Session Chair:

Ashoka Kumar
Axiscades Technologies

Technical Keynote:

Reinventing R&D for the software defined vehicle

Speaker:

Ms.Rashmi Rao
Mathworks

Paper Title: A Virtual Environment for an early development and validation of next generation Digital Vehicle Entry Functions

Paper Authors:

Kushal Shivanandaswamy
Natarajan Nagarajan
Sivakumar Rajagopal
Chandrima Sarkar
Robert Bosch Engrg & Bus Solutions Ltd

Paper Title: Enhanced sustainability using “Predictive functions with Route recognition

Paper Authors:

Samrat Golgar
Chen jin
Dhaval Dhruv
Robert Bosch India Ltd

Paper Title: Thermal alarm handling in safety critical electronic control units for automated vehicle using AI and Machine Learning

Paper Authors:

Senthil Kumar Arumugam Perumal
Gayathri Rajam Ramasamy
Pradeep Pushpanathan
Bhavya Babu
Kadhirvel Rajasekaran
Bosch Global Software

Paper Title: Machine Learning based Instrument Cluster inspection using Camera

Paper Authors:

Shreyas Kalkar
Sandhya Anilkumar
Sarika Tavhare
Indranil Bose
Saloni Bobade
Varroc Engineering Pvt Ltd

S 25: Vehicle Dynamics, Active Safety and Control-3 Studio 7

Session Chair:

Santoshkumar Palati
ZF Technology Center India

Technical Keynote:

Improvements in tire model to control vehicle

Speaker:

Dr. Ashok Kumar Pandey
IIT Hyderabad

Paper Title: Motorcycle Crash Severity Estimation for Effective Emergency Response

Paper Authors:

Aditya Rao
Vishal Muralidharan
Vipul Notani
Continental Automotive Corporation

Paper Title: Two wheeler suspension tuning with extended half car model

Paper Authors:

Sarnab Debnath
Ashish Gautam
Lokesh Soni
Dipak Kamble
Janarthanan SJ
Simple Energy

Paper Title: Ride mode development from motor characteristics and riding data collection

Paper Authors:

Ashish Gautam
Umashankar Subramani
Lokesh Soni
Dipak Kamble
Simple Energy

Paper Title: Methodology to decide overall drive performance of passenger vehicles

Paper Authors:

Bhoopendra Singh
Abha Rani
Harsh Kakkar
Maruti Suzuki India Ltd

Technical Session 6 14:00 -15:45

S 26: Emission, Environment and Sustainability-5
GBR 2

Session Chair:

Aniruddha Amarnath
Vitesco Technologies

Topic:

ZEM car - a car that cleans the air while driving

Speaker:

TU Ecomotive

Paper Title: Implementing the circular economy model to air cargo system

Paper Authors:

Vinayak Vijaya chandran
Goodrich Aerospace Services Pvt Ltd
Abhishek Raj
Venkata Sindhi Tadigotla
Collins Aerospace

Paper Title: An Analysis of Automotive Industry Standards for Electric Power Train Vehicles

Paper Authors:

Varun Malik
Devendra Vashist
Manav Rachna International Institute Of Research And Studies

Paper Title: Exigency of Standardization for Annotation Format in Automated Driving Assist System (ADAS) Feature Development

Paper Authors:

Anita Kumari
Continental Auto Comp India Pvt Ltd

Paper Title: High Voltage Safety considerations in Indian Evs

Paper Authors:

Ameya V Gambhir
Srushti Ethape
Dhananjay Yadav
Hella India Automotive

S 27: Multiple Modes of Mobility
Studio 1

Session Chair:

Ramachandran S
Infosys

Topic1:

Future Drone Technologies & Special Applications

Speaker:

Ezhilan Nanmaran
Ideaforge

Topic2:

Intra & Inter-City eVTOL Air Mobility

Speaker

Mike Hirschberg
Vertical Flight Society

Topic3:

Air Taxis and Air Ambulances are Coming to Town

Speaker:

Dr. Kamesh Namuduri
University of North Texas

Topic4:

Hydrogen Boats & Alternate propulsions

Speaker:

MR Madhu Nair
Cochin Shipyard

Topic5:

Systems engineering in Railways

Speaker:

Dr. Manoj Bhalerao
Wabtec

S 28: Hybrid and Electric Vehicles-5
Studio 2 & 3

Session Chair:

Dr. Himadri Das
TVS Motors

Topic1:

Electric vehicle charging system: wireless charging technologies and challenges

Speaker:

Dr. Rohith Kamath
Vitesco Technologies

Paper Title: Evolution of India EV Ecosystem

Paper Authors:

Gopalakrishnan Nallathambi
Sudesh Sharma
Ganesh Sankaran
Rao Talluri
Ramesh Muthusamy
Pandian R
Ford Motor Company

Paper Title: Electrical and Geometrical Approaches to Suppress the Noise and Vibrations (NVH) in Electric Machines

Paper Authors:

Yedukondalu Kondaveeti
Jagadish Panchada
Aswin uvaraj Ganesan
ZF India Pvt Ltd

Paper Title: Reduction of motor vibration & noise in permanent magnet motor

Paper Authors:

Manasa Parida
Kurmarao Vavilapalli
Karthick K T
TVS Motor Co Ltd

Paper Title: Influence of fins orientation, mounting direction and outer casing design on thermal behavior of the motor of small mobility vehicles

Paper Authors:

Venugopal Muthukumaran
Karthick Sadasivam
Valeo India Private Limited

S 29: Vehicle Electronics & Software-3
Studio 6

Session Chair:

Vijayalayan
Mathworks

Topic1:

5G in Automotive

Speaker:

Satish Jamadagni
Reliance Jio

Paper Title: Online NVH Data Pattern Analysis through Telematics

Paper Authors:

Pramod JAGTAP
Rajat Kasliwal
Rakesh Mahali
VE Commercial Vehicles Ltd

Paper Title: Common vulnerability considerations as an integral part of the automotive cybersecurity engineering process.

Paper Authors:

Sreenikethana venkatachalapathy
Vitesco Technologies

Paper Title: Software Reliability Modelling and Application in Software Development Life Cycle

Paper Authors:

Apoorv Satpute
Sandhya Anilkumar
Jyoti Priya
Jitendra Mishra
Varroc Engineering Pvt Ltd

Paper Title: Plenum Performance Predictive and Prescriptive Analytics Using Machine Learning and Meta-Heuristic Optimization

Paper Authors:

Balasubramanian Shanmugam
Omar Garcia
Raghavendra Manganahalli
Biswajit Tripathy
GM - TCS

S 30: Simulation and Testing-6
Studio 7

Session Chair:

Deepak N
TVS Motors

Topic1:

AI in Embedded System for Software controls

Speaker:

Dr. Vivek Venkobarao
Vitesco Technologies

Paper Title: An Improved Finite Control Set – Model Predictive Control algorithm for Permanent Magnet Synchronous Motor Control Applications

Paper Authors:

Maneetkumar Dhanvijay
COEP

Paper Title: Design Improvement Of Engine Mounts in Commercial Vehicles

Paper Authors:

Sonu Paroche
Mahendra Parwal
Kushal Chandel
Nivedita Chauhan
Ishavmeet Singh
Ashok Kumar Patidar
VE Commercial Vehicles, Ltd.

Paper Title: Clutch Pedal Spring Parameter Optimization To Reduce Clutch Pedal Efforts Through Virtual Simulation

Paper Authors:

Tanmay Jain
Srinivas Kurna
Clinton Johnson
VE Commercial Vehicles Ltd

Paper Title: Methodology to improve Engine Valve Tip Durability for Type-II Valve-train

Paper Authors:

Amandeep Singh
Jaspreet Singh
Sanjay Poonia
Shailender Sharma
Narinder Kumar
Maruti Suzuki India Ltd

TechHive

Empowering mobility startups

Providing a genuine platform for start-ups in the mobility ecosystem to present their technology and build an opportunity to network with the major organizations, Industry pioneers and stalwarts to get up and running in the mobility domain!



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UET
Udayan EcoTech

Sensus Electric

Focus Track

SIIMC 2022 – TECH HIVE Program Agenda			
	12th Oct 2022		
14:00 - 14:20	Inaugural Address	Mr. Dhananjayan M	
14:20 - 14:50	Special Guest	Mr. Suhas Gopinath	Moderated by Mr. Amar Variawa
14:50 - 15:20	Keynote	Mr. Karthikeyan (Xenon)	Moderated by Mr. Amar Variawa
15:20 - 15:40	TechHive Genesis	Mr. Pradeep C	
	13th Oct 2022		
9:00 - 9:10	Opening Remark	Tech Hive Chair	
9:10 - 9:30	Presentation 1	Focus Track	
9:30 - 9:50	Presentation 2	Reynlab	
9:50 - 10:10	Presentation 3	BeWingz	
10:10 - 10:30	Presentation 4	Fleeca	
13:30 - 13:40	Opening Remark	Tech Hive Chair	
13:40 - 14:00	Presentation 5	Oorja Energy	
14:00 - 14:20	Presentation 6	AICE	
14:20 - 14:40	Presentation 7	Sensus Electric Cars	
14:40 - 15:00	Presentation 8	Udayan Ecotech	
	14th Oct 2022		
9:00 - 9:30	Skilling for Startups	Mr. Arindam Lahiri	
9:30 - 9:50	Presentation 10	Simple Energy	
9:50 - 10:10	Presentation 11	P Manifold	
10:10 - 10:30	Special Invitee	Aptiv	
10:30 - 10:40	Summary & Vote of Thanks	Mr. Pradeep C	
14:00 - 15:00	Innovation & Incubation Awareness : Dr. Vora K C		

Session Rapporteurs:

Session	Rapporteur	Org
S1	Arjunraj	Consultant
S2	Vishal Muralidharan	Continental Automotive
S3	Shajahan Shamsudeen	Vitesco Technologies
S4	Mohamed Azeem Mulla	Vitesco Technologies
S5	Pradeep Kumar	Vitesco Technologies
S6	Sreenikethana Venkatachalapathy	Vitesco Technologies
S7	Balachandran P	Vitesco Technologies
S8	Geo Peter Moothedan	Vitesco Technologies
S9	Mahesh Keseregere Sampangi	Vitesco Technologies
S10	Ajay Siddan Perumal	GM TCS
S11	Geo Peter Moothedan	Vitesco Technologies
S12	Vishal Muralidharan	Continental Automotive
S13	Shajahan Shamsudeen	Vitesco Technologies
S14	Mohamed Azeem Mulla	Vitesco Technologies
S15	Arjunraj	Consultant
S16	Mahesh Keseregere Sampangi	Vitesco Technologies
S17	Balachandran P	Vitesco Technologies
S18	Pradeep Kumar	Vitesco Technologies
S19	Sreenikethana Venkatachalapathy	Vitesco Technologies
S20	Sandeep Kumar	GM TCS
S21	Geo Peter Moothedan	Vitesco Technologies
S22	Arjunraj	Consultant
S23	Shajahan Shamsudeen	Vitesco Technologies
S24	Mohamed Azeem Mulla	Vitesco Technologies
S25	Pradeep Kumar	Vitesco Technologies
S26	Balachandran P	Vitesco Technologies
S27	Mahesh Keseregere Sampangi	Vitesco Technologies
S28	Ajay Siddan Perumal	GM TCS
S29	Sandeep Kumar	GM TCS
S30	Satyaprasad H	GM TCS

Ansys EV Workshop (Virtual) //

Accelerating EV Design and Development through Virtualization

Date: October 11, 2022

Time: 10:00 AM – 4:30 PM

[Click Here To Register ►](https://tinyurl.com/ansys-ev-workshop-2022) <https://tinyurl.com/ansys-ev-workshop-2022>

(Limited Seats Available)



The automotive industry is undergoing a disruptive transition with an accelerated move towards electrified, autonomous, and connected vehicles. Research predicts, more than 130 million EVs will be on the road worldwide by 2030. Companies are racing to capture the electric mobility market opportunity. But future success depends on meeting key engineering goals in terms of performance, safety, and cost.

EV development process involves multiple design iterations and several tests to be performed with considerations of range, performance, reliability, safety, and security. Technology complexities demand an integrated development approach to enable front loading development and V&V processes. Engineering teams across the globe are increasingly adopting virtualization, aided through physics-based simulation, to meet the complex design requirements and accelerate product development.

Join this workshop at SIIMC2022 (SAEINDIA International Mobility Conference) and learn about the overall landscape of EV development from complex multi-physics to software. This will key topics around EV virtualization practices applied for component design (battery, motor, power electronics), sub-system / system integration and validation.

Agenda //

10:00 – 10:15	Welcome and Introduction
10:15 – 10:45	EV Virtualization Overview
10:45 – 11:30	Battery Design and Development through Simulation
11:30 – 11:45	Break
11:45 – 12:15	Traction Machine Design and Analysis
12:15 – 12:45	Power Electronics and EMC
12:45 – 13:45	Lunch Break
13:45 – 14:15	Electronics Thermal and Structural Reliability
14:15 – 15:00	Software Development and FuSa
15:00 – 15:15	Break
15:15 – 16:00	Subsystem and System Validation through XiL and Virtual Drive Test
16:00 – 16:30	Open Discussions and Q&A

GT-SUITE EV WORKSHOP

Pre-conference Hands-on Workshop at SIIMC 2022

11th Oct 2022

Automotive industry has been the birthplace for innovation and the recent electric disruption has created an impetus to evolve faster. India has seen a strong pivot towards battery electric vehicle (BEV) in the 2W, 3W space, along with encouraging adoption in the 4W and mass transit vehicles, with companies exploring BEV, fuel cell electric vehicle (FCEV) amongst the technology mix.

With the myriad of options available from the vehicle level to powertrain to component level (battery, motor types, cooling strategies), lack of legacy design knowledge and an exponentially large operating envelope of traditional testing driven product development approach can cause timeline and cost challenges. This is where virtual designs and development of products becomes the need of the hour!

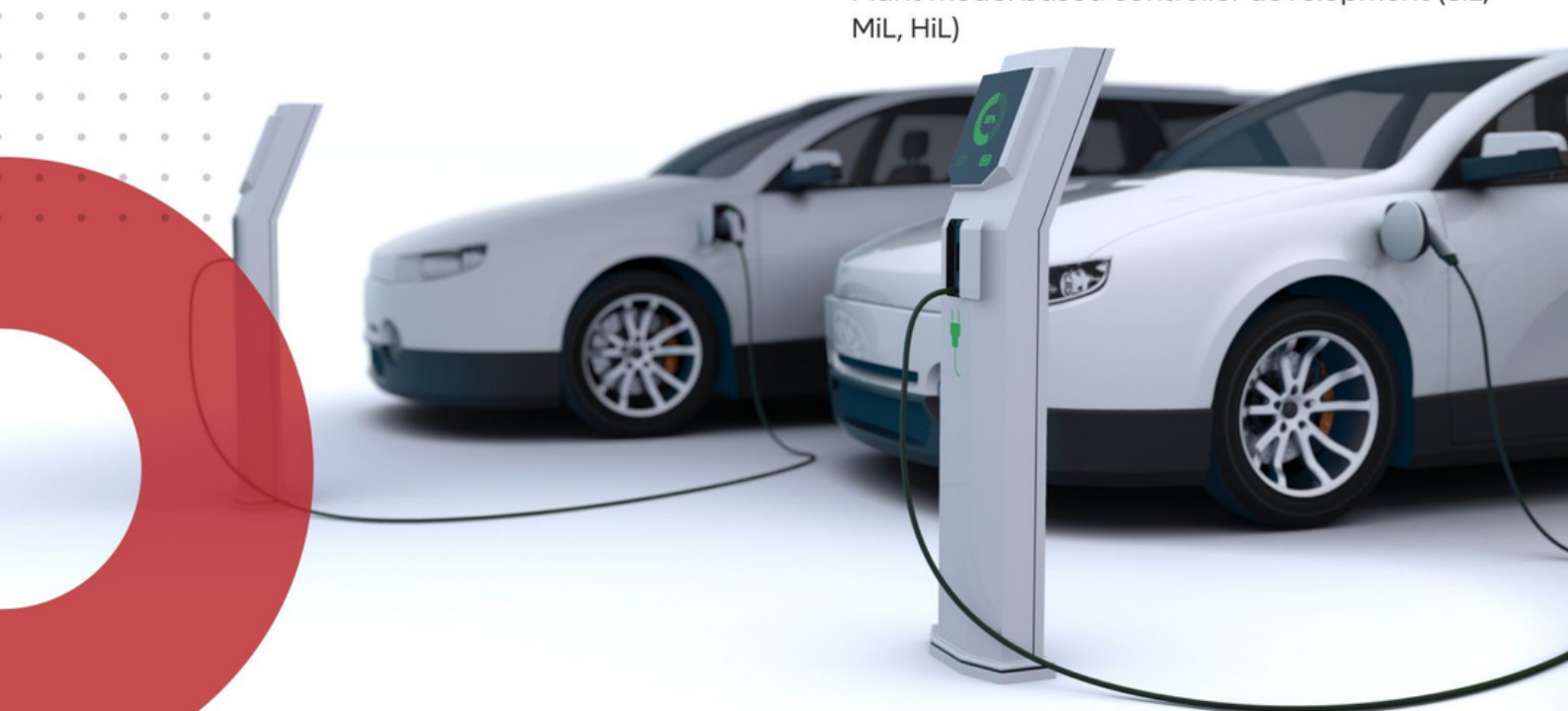


Join us

For a workshop on building the next-gen mobility faster with simulation (GT-SUITE)! at SIIMC 2022 (SAE INDIA International Mobility Conference)

This 1-day workshop will help you to learn and understand the use of model based system level simulation (MBSE) during EV product development!

- Such as – range, performance prediction
- Component sizing for meeting requirements (battery, motor, inverter etc.)
- Component thermal analysis/validation/life predictions
- Plant model based controller development (SiL, MiL, HiL)



Agenda

9:30 - 10:00	Welcome & Introduction
10:00 - 10:30	GT overview & EV solutions for electrification
10:30 - 11:00	GT-SUITE software demonstration for BEV
11:00 - 11:15	Tea break
11:15 - 12:15	Hands on practice for building BEV for drive cycle analysis, range prediction, etc
12:15 - 13:00	GT-SUITE software demonstration for battery sizing, motor sizing, predicting real world battery aging analysis using GT-AutoLion, GT-SUITE, GT-Real Drive
13:00 - 14:00	Lunch
14:00 - 14:20	Battery design & development using 1D-3D approach
14:20 - 15:00	Thermal system modeling (presentation, thermal runaway + battery, cabin, HVAC, etc.)
15:00 - 15:30	GT-SUITE software demonstration for integrated vehicle thermal modeling
15:30 - 15:45	Tea break
15:45 - 17:00	Hands on practice for thermal distribution of battery pack 1D-3D approach

Pre-requisites

(Limited seats only)

- Engineering Background – Mechanical/Electrical/ B.Tech. /M.Tech
- Knowledge of Simulation – FEA/CFD/3D/1D
- Due to the limited number of seats, priority will be given to commercial clients

Date - 11th Oct, 2022

Time - 9:30 - 17:00

Venue - Hilton Bengaluru Embassy Manyata Business Park,
Outer Ring Road, Nagawara, Bengaluru, 560045, India

[Register Now](#)

Note: GT team will provide laptop during workshop for practice

