



SAKTHIVEL R AUT &lt;rsakthivel@svce.ac.in&gt;

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## Fwd: EXPRESSION OF INTEREST FOR HOSTING THE WORKSHOP OF ELECTRIC TWO WHEELER DESIGN COMPETITION 2024

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SAKTHIVEL R AUT &lt;rsakthivel@svce.ac.in&gt;

Tue, Oct 3, 2023 at 11:17 AM

To: Nallaperumal SS &lt;perumalnalla8@gmail.com&gt;

Cc: HoD AUT &lt;hodae@svce.ac.in&gt;, GANESH V AUT &lt;vinaganesh@svce.ac.in&gt;, Boobalaseshthilraj Aut &lt;boobal@svce.ac.in&gt;

Dear Sir,  
Greetings from SVCE.

After our recent discussion, SAE Collegiate Club of SVCE will assist to organize the upcoming Two-Day Workshop in collaboration with SAEINDIA Southern Section for the **Dr. G. Padmanabham Memorial Electric Two-Wheeler Design Competition 2024**. Our team has diligently tailored the workshop to meet your specific requirements, ensuring a successful and impactful event.

**Date** - 28th and 29th October 2023.

1. Seminar Hall with a capacity of 300 (With Audio and Visual aids) for Inauguration/Valediction  
**SVCE - Function Hall, Video Hall**
2. Two classrooms with a capacity of 100 with Audio and Visual aids  
**II, III and IV year AUT Classroom**
3. Computer lab facility for 100 participants.  
**Placement Cell / AI DS Lab / CS Lab**
4. Accommodation for participants with food (May collect nominal charge from participants) :  
**2 days (200 participants, It may vary based on location)**  
**No Accommodation,**  
**Food can be Arranged - I Max catering in Hostel Canteen**
5. Accommodation and food for faculty advisers (Maximum of 30)  
**No Accommodation**  
**Collage bus can be Arranged**  
  
**Food can be Arranged - I Max catering in Hostel Canteen**
6. Guest room and food for Subject Matter Experts 10 members with local transport:  
**Guest Room can be arranged - 5 experts**  
**Two Cars can be Arranged**
7. Snacks and Tea ( morning and evening) for Two days and lunch for 300 participants.  
**Can be provided under charged basis**

8. Banner and Photography - **It can be arranged**

[Quoted text hidden]

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Regards,

### R. Sakthivel

Assistant Professor - Department of Automobile Engineering  
Sri Venkateswara College of Engineering  
Pennalur, Sriperumbudur - 602117  
Tamilnadu, India

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## DEPARTMENT OF AUTOMOBILE ENGINEERING

### SAE Collegiate Club of SVCE in association with SAEINDIA Southern Section

Organized the  
National Level Workshop  
on

## Dr. G. Padmanabham Memorial Electric Two Wheeler Design Competition (ETWDC) 2024

### Faculty Advisors

Dr. V. Ganesh

Associate Professor & A.HoD

Mr. R. Sakthivel

Assistant Professor

Mr. A.K. Boobalasantilraj

Assistant Professor & Management

Committee Member SAEISS, Oragadam

Division

### Patron

Dr. J. Venkatesan, Professor & Head

# CONTENT

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- Event Agenda
- Inaugural Address
- Tutorial on CAD Modelling
- Fundamentals Of Vehicle Engineering
- Power Train Calculation & Master Layout
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- Photography

# EVENT INVITATION



## SAEINDIA Southern Section & SAE Collegiate Club of SVCE



solicit your esteemed presence for  
a Workshop on

### Dr G PADMANABHAM MEMORIAL ELECTRIC TWO WHEELER DESIGN COMPETITION 2024

Scheduled on

28th & 29th October 2023  
9:00 am to 5.00 pm



**Inaugural Address**

**Mr. I Meenakshi Sundaram**  
CTO, Amalgamation Group

**Chief Guest Address**

**Mr. C Varadarajan,**  
Head of R&D (Retd.), TAFE

**ALL ARE CORDIALLY INVITED**

**Venue**

**Multi Purpose Hall**



(An Autonomous Institution -Affiliated to Anna University, Chennai)  
SriperumbudurTk -602117,TamilNadu



[svce.ac.in](http://svce.ac.in)

# AGENDA

<b>Invocation</b>	<b>Tamilthai Vazhthu</b>
	<b>Lighting Ceremony</b>
<b>Inaugural Address</b>	<b>Mr. I Meenakshi Sundaram CTO, Amalgamation Group</b>
<b>About SAEISS</b>	<b>Mr. R A Armstrong Director, R A A Associates Pvt Ltd Past Chairman SAEISS</b>
<b>About Dr G Padmanabham Memorial ETWDC</b>	<b>Mr. Nallaperumal S S Champion, Dr G Padmanabham Memorial ETWDC</b>
<b>Chief Guest Address</b>	<b>Mr. C Varadarajan, Head of R&amp;D (Retd.), TAFE</b>
<b>Vote of Thanks</b>	<b>Dr. V Ganesh Associate Professor, Department of Automobile Engg., SVCE</b>





# INAUGURAL ADDRESS

The Department of Automobile Engineering and the SAE Collegiate Club of SVCE of Sri Venkateswara College of Engineering in association with SAEINDIA Southern Section - Oragadam Division recently organized the National Level Two Days Workshop on "Dr. G. Padmanabham Memorial Electric Two-Wheeler Design Competition (ETWDC) 2024" between 28th and 29th October 2023.

The inaugural address featured Mr. I. Meenakshi Sundaram, CTO of Amalgamation Group, and the Chief Guest Address was delivered by Mr. C. Varadarajan, Head of R&D (Retd.) at TAFE. The workshop, meticulously designed for the registered teams, included sessions conducted by experts from SAEINDIA Southern Section, including Mr. Shanmugam (Director, Design Desk India Pvt. Ltd.), Mr. R A Armstrong (Director, RA Associates), Mr. Sriram (Chief Engineer, ZF Commercial Vehicle Control System), Mr. Nallaperumal SS (Systems Architect, Vitesco Technologies), and Mr. Venkateswaran (Deputy Manager, Royal Enfield).



The interactive Q & A session that followed the presentation encouraged active participation and knowledge exchange. Attendees enthusiastically posed questions and sought clarification from the expert, further enriching their understanding of the topic.





# TUTORIAL ON CAD MODELLING

Mr. R A Armstrong speaker started with the fundamentals of Engineering Drawing. He stated the importance of Engineering Drawing on CAD Modelling. Then he begins the tutorial of Siemens NX 12.0 is one of the world's leading CAD/CAM/CAE software. Being a solid modelling tool, it unites 3D parametric features with 2D tools, and also addresses every design through manufacturing process. He guided the participants through step-by-step process of the sketching a model starting from creating document, usage of sketching tool, creating sketches and many more. Also he made students to work on sample exercise and every chapter ends with Self-Evaluation Test so that the participants can assess their knowledge of the chapter. The answers to Self-Evaluation Test are given at the end of the chapter. Also, the review questions and exercises are given at the end of each chapter and they can be used by the instructors as test questions and exercises.



# FUNDAMENTALS OF VEHICLE ENGINEERING

Mr. C Varadarajan, Head of R&D (Retd.), TAFE speaker started with the fundamentals of vehicle engineering. It is a broad field that encompasses various aspects of designing, manufacturing, and maintaining vehicles. The topics like Vehicle Dynamics, materials & manufacturing, safety Engineering, Human Factors and Ergonomic Trends and Innovations in Ev are the topic discussed..



**SAEINDIA**  
SOUTHERN SECTION

## POWERTRAIN CALCULATIONS

### Gradient Resistance Force

- The force needed to drive the vehicle up a slope. It is the component of the vehicle weight that acts along the slope
- By simple resolution of forces we see that

$$F_{hc} = mg \sin \theta$$

Where,  
 $m$  = Mass of vehicle and rider (Kg) – 150 Kg  
 $g$  = Acceleration due to gravity ( $m/s^2$ ) – 9.81  $m/s^2$   
 $\theta$  = slope angle (Degree)  
 $\theta = \tan^{-1} (h/s)$

14 % of Grade means  
 $\theta = \tan^{-1} (14/100) = 8.85$  Degrees

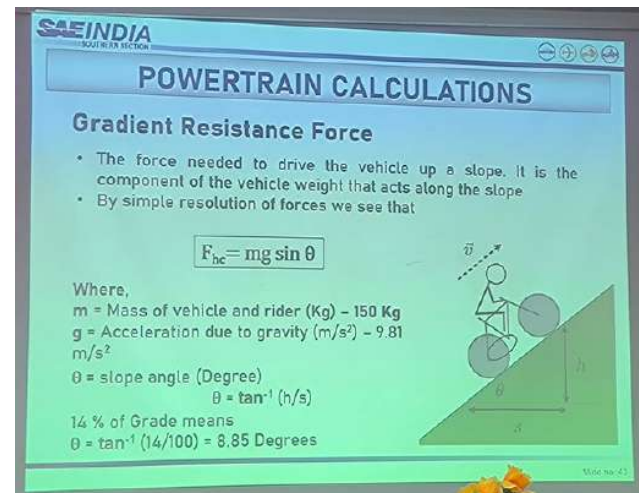
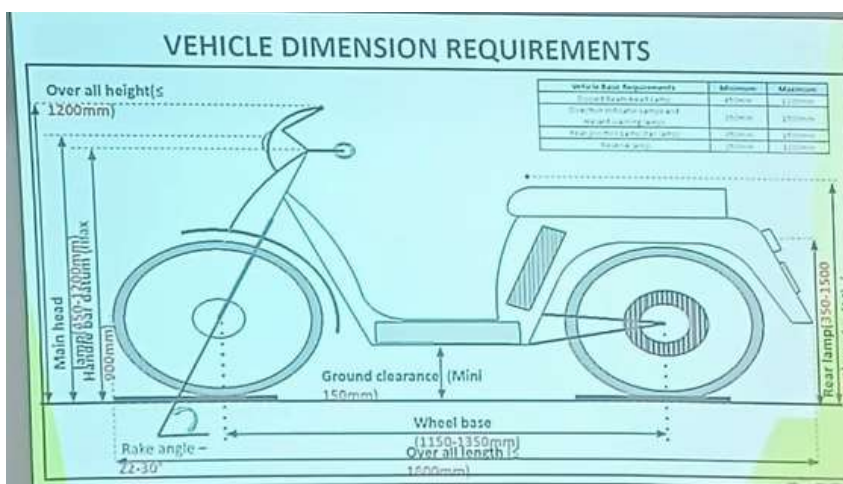
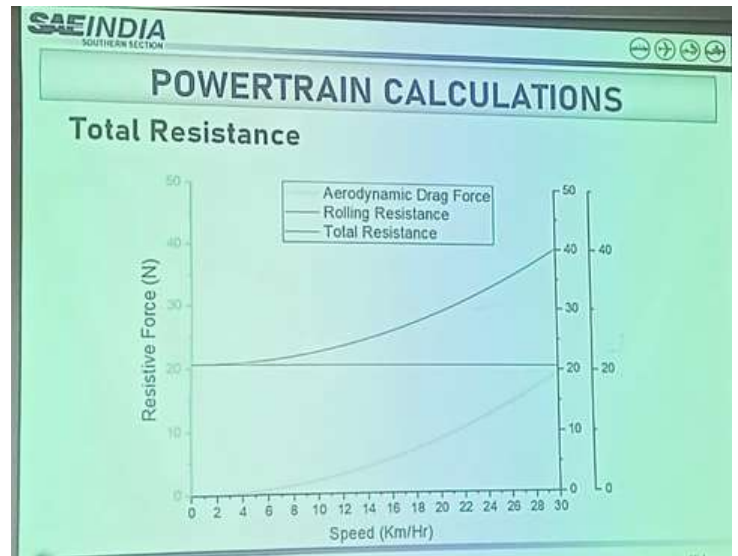
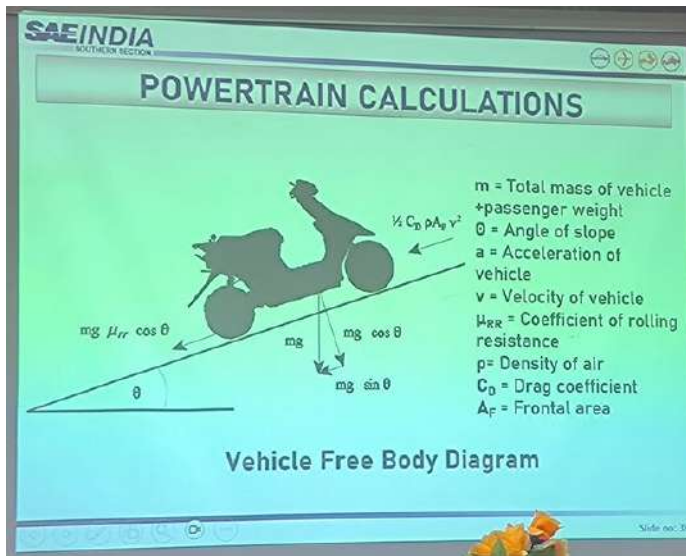
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## VEHICLE DIMENSION REQUIREMENTS

Vehicle Basic Requirements	Minimum	Maximum
Front fender height (mm)	40	120
Front indicator lamp (mm)	20	120
Rear fender height (mm)	40	120
Rear lamp (mm)	40	120

# POWER TRAIN CALCULATION & MASTER LAYOUT



# VALEDICTORY FUNCTION

During the valedictory function, participation certificates were distributed to the teams by the esteemed chief guests, and it concluded with gratitude expressed by Dr. V. Ganesh, Associate Professor, Department of Automobile Engineering, Sri Venkateswara College of Engineering



The workshop successfully brought together 34 teams, totaling 243 participants from diverse institutions across India. Throughout the event, attendees actively engaged in hands-on sessions, delving into engineering concepts for the design of battery vehicles, power train calculations, CAD modeling, and vehicle engineering. They acquired practical experience in the master layout of electric two-wheelers. The experts from SAEINDIA Southern Section Section shared valuable insights, simplifying complex concepts for accessibility and practical application.



# EVENT VOLUNTEERS

Extend heartfelt gratitude to our dedicated student volunteers for their invaluable contributions to the success of the workshops event. The enthusiasm, commitment, and hard work have truly made a lasting impact. Thank you for sharing your time and skills, creating a positive learning environment, and inspiring all participants. Your efforts have played a crucial role in fostering a spirit of collaboration and knowledge-sharing within our academic community.



LIST OF PARTICIPANTS - ETWDC 2024

S.No	Team Name	College Name	Team Captain Name	Mobile No.	Team Members
1	BERLIN	VELAMMAL ENGINEERING COLLEGE	VISHWANAATHAN.K	8903238561	7
2	ECOSPRINT	SMT. KASHIBAI NAVALE COLLEGE OF ENGINEERING, VADGAON BK. PUNE-41104	NAWALE SURAJ ADINATH	9527507300	5
3	ECOVITY	PSNA CET	B NITHISH KUMAR	8778678243	6
4	ELECTRAYAAN 1.0	CMR COLLEGE OF ENGINEERING AND TECHNOLOGY	SINCHAN PAL	8179124458	5
5	ELECTROVOLT	SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY	JAI SANJAI J	6374816509	4
6	ELITE SQUAD	JEPIAAR ENGINEERING COLLEGE	VIGNESHWAR.N	9367644447	9
7	EVVY-24	GOVERNMENT ENGINEERING COLLEGE,SREEKRISHNAPURAM PALAKKAD	JISHNU N	7306450762	9
8	EXCELERATORS	COLLEGE OF ENGINEERING TRIVANDRUM	SREEHARI	7356452669	7
9	G TRON	GOVERNMENT ENGINEERING COLLEGE TRISSUR	MUHAMMED SHAFI M	7994521446	5
10	GREENWHEELZ	VELALAR COLLEGE OF ENGINEERING AND TECHNOLOGY	SANTHOSH S	9003431295	10
11	HINATA	KNOWLEDGE INSTITUTE OF TECHNOLOGY	R HARIHARAN	9585772893	10
12	MIT MAVERICKS	MADRAS INSTITUTE OF TECHNOLOGY	NIRMAL	8270054636	10
13	PEGASUS	SRI RAMAKRISHNA ENGINEERING COLLEGE	SHARATH	8111033487	3
14	PHOENIX MLRIT	MLR INSTITUTE OF TECHNOLOGY	P BHAVANI KIRAN GOUD	8106527247	10
15	PHOENIXEON	K S Rangasamy Colege of Engineering	S. PRITHIV RAJ	9443655590	5
16	PROMETHEUS	MADRAS INSTITUTE OF TECHNOLOGY	BHARATH RAJ. R	7305617969	10
17	REGENS	RAJIV GANDHI INSTITUTE OF TECHNOLOGY, KOTTAYAM	ABHISHEKH JAYADEV NAIR	9188851827	7
18	SAPPHIRE	SRI SAIRAM INSTITUTE OF TECHNOLOGY	NITHESWARAN K	8680861769	6
19	STELLAR-X	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	YUGESH A	9940555089	8
20	TEAM ELEODOROS	MIT ADT UNIVERSITY	ADNAN FAKIR	9322289636	5
21	TEAM AMIGOS	VISHNU INSTITUTE OF TECHNOLOGY	R.KOTI BABU	8374001656	9
22	TEAM ARAGORN	RAJIV GANDHI INSTITUTE OF TECHNOLOGY , KOTTAYAM	NOEL JOSEPH	7736539322	8
23	TEAM EMATRIX	RAJALAKSHMI ENGINEERING COLLEGE	VINUBALA U V	9345888899	8
24	TEAM E-VOLTZ	GOVERNMENT ENGINEERING COLLEGE THRISSUR	JOHAN THOMAS	8921899072	4
25	TEAM NIKOLA RACING	K K WAGH INSTITUTE OF ENGINEERING EDUCATION & RESEARCH, NASHIK	ANIKET CHHATRE	8010798397	6
26	TEAM PHALANX	GOVERNMENT COLLEGE OF ENGINEERING AND RESEARCH AVASARI KHURD, PU	ARYAN THENG	9925444395	9
27	TEAM SPARK IGNITED	INSTITUTE OF ENGINEERING AND TECHNOLOGY DAVV	MURTAZA SANDALWALA	9424038752	6
28	TEAM VAJRA	DR AMBEDKAR INSTITUTE OF TECHNOLOGY	HEMANTH S	6360558424	7
29	THUNDERVOLT	SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY	DINESH KUMAR M	6374816509	2
30	TRAXION ELECTRO KNIGHT	SRI VENKATESWARA COLLEGE OF ENGINEERING	ARAVIND A	9342356952	7
31	TRAXION VOLT VANGUARD	SRI VENKATESWARA COLLEGE OF ENGINEERING	ABINANDAN P	9443304280	7
32	VEGHA	TKM COLLEGE OF ENGINEERING	ARAVIND REMESH	8129192045	7
33	VISHWAS	OSMANIA UNIVERSITY	S SRI VARSHA REDDY	9704360454	4
34	ZEUS	CHRIST COLLEGE OF ENGINEERING	DEEPAK KRISHNAN.M	8590569645	5
				Total Participants	230

1. V Ganesh (Ganesh V, Asst Prof)  
 2. P. S. S. [P. S. S. Asst Prof]  
 Coordinators

V. D. / Asst