

CORE COMMITTEE MEMBERS

CHIEF PATRON

Dr. G. Viswanathan, *Founder & Chancellor*

PATRONS

Mr. Sankar Viswanathan, *Vice President*

Dr. Sekar Viswanathan, *Vice President*

Dr. G. V. Selvam, *Vice President*

Dr. V. S. Kaanchana Bhaskaran, *Vice Chancellor*

Dr. Partha Sharathi Mallick, *Pro - Vice Chancellor*

Dr. T. Jayabarathi, *Registrar*

ORGANIZING CHAIR

Dr. J. Thangaraja

Director, Automotive Research Centre

Vellore Institute of Technology (VIT)

VIT was established to provide quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education consistently. The campus has a cosmopolitan atmosphere with students from all corners of the globe. At VIT, we prioritize student growth, empowering them through the guidance of highly experienced and knowledgeable educators. Our commitment to international standards in teaching and research fuels our pursuit of academic excellence. Notably, our Automotive Research Centre (ARC) leads the way in developing cutting-edge EV powertrains, including battery management systems and communication frameworks for advanced electric vehicles.

About the Workshop

Hardware-in-the-Loop (HIL) simulation is a powerful technique used to develop and test complex real-time embedded systems, such as Battery Management Systems (BMS). HIL simulation involves connecting the controller (in this case, the BMS) to a real-time simulation of the system it will control. This allows the BMS to interact with a virtual environment that mimics real-world conditions

How does HIL work for BMS?

- Simulation of Battery Dynamics: The BMS interacts with a simulated battery model that replicates the behavior of actual battery cells, including charge/discharge cycles, temperature changes, and other critical parameters.
- Real-Time Testing: The BMS algorithms are tested in real-time, allowing engineers to evaluate how the system responds to various scenarios, such as overcharging, deep discharging, and fault conditions.
- Early Detection of Issues: By testing early in the development process, potential problems can be identified and addressed before they become costly or dangerous.

Workshop benefits

- Avenues for future capstone projects,
- Connections to related job and higher education opportunities,
- Possibility of conference presentation and journal publication,
- Patentable ideas for next-generation devices.



VIT®



Automotive Research Centre

Half day Workshop on

Hardware in Loop for Battery Management Systems for various research initiatives

12th Mar 2025 (Wednesday)

Time : 9.50am - 1:00 pm



Registration

Registration Fee and Limit : Rs. 100 (First 30)

Registration Link: <https://events.vit.ac.in>

Contact

Dr. A. Rammohan

Asso. Professor | ARC | VIT Vellore

Tamil Nadu - 632014, India.

Email: rammohan.a@vit.ac.in

Phone: +91 9942570122