

Lithium-ion Battery Hazards and Design Challenges for the Electric Vehicle Sector

India is witnessing significant growth in the e-mobility and renewable energy sectors. Batteries are an integral part of these sectors as they provide the energy and power for these applications as well as a wide variety of accessories linked to these sectors.

Recently, we have seen major traction of electric vehicles (EVs) in the world and this sector is gaining traction in India also. A majority of the EVs are powered by lithium-ion batteries. Batteries have the potential to offer many benefits to society such as improved air quality and reduced carbon dioxide emissions. However, they can be a major safety hazard if not designed, handled or maintained properly. The safety of lithium-ion batteries is of utmost importance in EVs and thus the basic understanding of the various battery hazards and design challenges is critical for all key stakeholders like battery manufacturers, OEMs, engineers, government, regulators, etc.

With increasing penetration of e-mobility in the country, understanding the safety of the lithium-ion battery system along with the charging infrastructure, in varied environments is crucial (considering diverse climate, temperature, altitude, etc., in India). Globally, we continue to hear about EV battery failures which lead to disastrous outcomes like thermal runaway, smoke and fire. Though batteries are a great energy storage source and help to reduce environmental pollution, ensuring the safety of the batteries from the design stage is very critical.

In this webinar, **Dr. Judy Jeevarajan** will talk about the following points which may be beneficial to the above stakeholders now and in the long run when EVs are adopted and become a vital part of public life.

- Hazards with lithium-ion batteries for EV
- Challenges with lithium-ion battery designs for EV
- Mitigation of hazards

• Charging infrastructure challenges

This is a 1-hour session including the presentation by the speaker followed by Q&A.

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