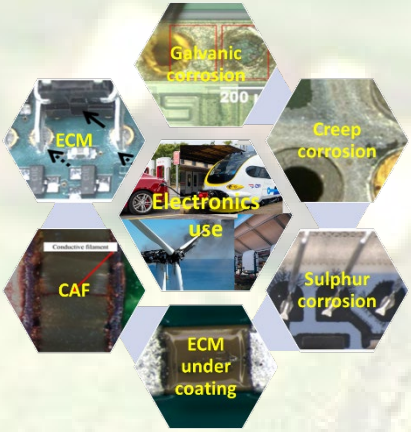
The 9th Seminar on

Climate effects on Electronics: Challenges and Perspectives

21-22 March 2024, Technical University of Denmark, Lyngby, Denmark



Today all electronics equipment irrespective of low or high power suffer from climatic effects introducing functional issues. Basic reason for such failures are due to corrosion failure mechanisms resulting from a combination of factors such materials involved, component design, processes, voltage/power, and finally climatic conditions to which they are exposed. Extensive use of power electronics components and systems as integral part of many applications such as renewable energy, traction systems, and automotive electrification resulting in exposure to harsh climatic conditions such as humidity and gaseous atmosphere.

Interaction of electronic components with humidity and gases could generate number of corrosion failure modes, which results in intermittent and permanent functional issues. While it is important to understand the robustness and reliability of the systems under expected exposure conditions, equally important aspect is to understand how different materials, material combinations, and processes affects environmental interaction causing corrosion failures leading to those functional issues. Changing scenario of high voltage/power and exposure conditions aggravate situations today, while it leads to modification of mechanisms. Understanding detailed mechanisms and their connection to functional issues will allow better Pro-active design and maintenance strategies for effective control.

This yearly seminar organized by CELCORR group at DTU focus broadly on “Climate exposure issues in electronics” bringing together electronics/electrical and material/corrosion experts. Broadly, seminar will address topics related to low/high voltage and effect of environmental conditions on failure mechanisms, technology

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sector wise issues, material, design, and PCBA processing aspects in connection with humidity issues, and intrinsic and extrinsic preventive strategies.

Topics for the seminar will cover, but not limited to:

- *Electronics use in renewable energy sectors and issues related to exposure climate.*
- *Climatic issues related to electronic use in vehicle electrification and traction systems.*
- *Mechanisms and issues connected to high voltage/power and modification of failure mechanisms.*
- *Test methods for simulating climatic effects and standardization.*
- *Materials use in electronics and issues connected to corrosion.*
- *Component level corrosion issues and failure mechanisms – High and Low power.*
- *Effect of PCBA design and processing on climate robustness.*
- *Intrinsic and extrinsic preventive measures including conformal coating, climate condition-based packaging etc.*

More detailed programme and information will be announced soon.

Organizers:
Centre for Electronic Corrosion (CELCORR), DTU
European Federation of corrosion (EFC), WP23 on Corrosion Reliability of Electronics
European Centre for Power Electronics (ECPE)

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Seminar location:
Technical University of Denmark, DK 2800, Lyngby, Denmark

Registration:
More information will appear soon on:
https://celcorr.dtu.dk/
https://atv-semapp.dk/