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*CORPE – the Center of Reliable Power Electronics*

# 11<sup>th</sup> CORPE Annual Symposium

Thursday 20<sup>th</sup> June 2024

AAU Energy, Aalborg University  
Auditorium, Pontoppidanstraede 111, 9220 Aalborg East, Denmark

*The Aalborg University's **Center of Reliable Power Electronics** is proud to invite professionals, scholars, experts, and those who in general are interested in the reliability of power electronics to the **11<sup>th</sup> Annual Symposium on 20<sup>th</sup> June 2024**. Internationally recognized speakers from industry and CORPE researchers will present their views on challenges in power electronics reliability.*

*The symposium is **free of charge** (a 500 DKK no-show fee applies, though). Sign up for the event at*

*<https://forms.office.com/e/jphB7Gai89>*

*Please, register by 13<sup>th</sup> June 2024.*

## Program

09:00 – 09:30	Coffee, Networking, and Registration
09:30 – 09:45	Welcome and a short introduction to CORPE – Frede Blaabjerg, Professor and the Center Leader, Denmark
09:45 – 10:30	“Next Generation of Electric Aircrafts” – Jean-François Allias, Propulsive Electrical architect on ZEROe Aircraft Project, Airbus
10:30 – 10:50	“X-Power Flex Tester: A Versatile Platform for DC- and AC- Power Cycling” – Francesco Iannuzzo, Professor, Aalborg University, Denmark
10:50 – 11:00	Coffee break
11:00 – 11:15	“Sustainability of Power Electronics – A Circular Economy Approach” – Ariya Sangwongwanich, Assistant Professor, Aalborg University, Denmark
11:15 – 11:30	“Identify Power Semiconductor Structure by a Novel Thermal Transient Analysis” – Yi Zhang, Assistant Professor, Aalborg University, Denmark
11:30 – 11:45	“Comparative Analysis of Bond Wire Degradation on Power Semiconductors under DC and AC Power Cycling” – Kaichen Zhang, PhD student, Aalborg University, Denmark
11:45 – 12:00	“Temperature Distribution of 10 kV SiC MOSFETs and its Influence on Wirebond and Solder Degradation” – Masaki Takahashi, PhD student, Aalborg University, Denmark

This event is sponsored by Energy Cluster Denmark (via the Ministry of Higher Education and Science)





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12:00 – 13:00	Lunch break
13:00 – 13:45	<b>“Reliability and Digitalization in Variable Speed Drives”</b> – Norbert Hanigovszki, Head of Drives Intelligence, Danfoss Drives
13:45 – 14:05	<b>“AI in Power Electronics Reliability Engineering”</b> – Huai Wang, Professor, Aalborg University, Denmark
14:05 – 14:15	Coffee break
14:15 – 14:30	<b>“Stability and Reliability of Modern Microgrid Systems”</b> – Yubo Song, Postdoc, Aalborg University, Denmark
14:30 – 14:45	<b>“Capacitor Testing and Reliability for High-Power Converter Applications”</b> – Bo Yao, Postdoc, Aalborg University, Denmark
14:45 – 15:00	<b>“Condition Monitoring of Three-phase Inverter for Traction Application”</b> – Xing Wei, PhD student, Aalborg University, Denmark
15:00 – 15:15	<b>“Impact of <math>V_{CE\ sat}</math> Measurement Conditions on Cycle-to-Failure Determination of IGBT Samples in Power Cycling Test”</b> – Yichi Zhang, PhD student, Aalborg University, Denmark
15:15 – 16:00	Visit to CORPE Test Facilities
16:00	End of the day

Registration no later than 13<sup>th</sup> June 2024. Registration link:

<https://forms.office.com/e/jphB7Gai89>



Registration link

Info/contacts

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## About CORPE

<http://www.corpe.et.aau.dk/>

*The **Centre of Reliable Power Electronics (CORPE)** at Aalborg University, Denmark, inaugurated in 2012, aims to design more reliable and more efficient power electronic systems for power generation, distribution, and consumption. The center strives to better understand how the reliability of power electronic devices and systems is influenced by stress factors such as temperature, overvoltage and current, humidity, and other environmental factors.*

*The centre was established in close collaboration with major Danish power electronic companies. The centre develops device and system models enabling the design of power electronic systems at predicted reliability. The knowledge is also used for online monitoring to predict the remaining useful lifetime and to enable smart failure control strategies. Several advanced test systems are available in CORPE. More than 30 researchers are active (around 15 PhDs).*

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