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CORPE – the Center of Reliable Power Electronics

10th CORPE Annual Symposium

Tuesday 6th June 2023

Auditorium of the Department of Energy, Aalborg University
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 **10th Annual Symposium on 6th June 2023**. Internationally recognized speakers from industry and academia will present their views on challenges in power electronics reliability.

Afterward, Oral and poster presentations about the research findings and achievements from CORPE will take also place, together with a discussion about the strategic roadmap.

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

[https://aauevents.microsoftcrmpartals.com/event/registration?id=CORPE Annual Symposium 20233104983052](https://aauevents.microsoftcrmpartals.com/event/registration?id=CORPE%20Annual%20Symposium%2020233104983052)

Please, register by 30th May 2023.

Program

09:00 – 09:30	Coffee, Networking, and Registration
09:30 – 09:45	Welcome and a short introduction to CORPE – <i>Frede Blaabjerg, Professor and the Center Leader, Denmark</i>
09:45 – 10:25	“Reliability Considerations for Satellites and Space Electronics” – <i>Mads Graungaard Taul, Head of Innovation, Space Inventor A/S</i>
10:25 – 10:45	“Prospects of Reliability of Power Electronic Devices” – <i>Francesco Iannuzzo, Professor, Aalborg University, Denmark</i>
10:45 – 11:00	Coffee break
11:00 – 11:15	“Fatigue Reliability of Electrical Fuses” – <i>Amir Sajjad Bahman, Associate Professor, Aalborg University, Denmark</i>
11:15 – 11:30	“Analytical Modelling of dV/dt and dI/dt of the Field-Stop IGBT” – <i>Peng Xue, Postdoc, Aalborg University, Denmark</i>
11:30 – 11:45	“Effect of Potting Gel on the Junction Temperature Measurement via Optical Fibers” – <i>Kaichen Zhang, Guest PhD, Aalborg University, Denmark</i>
11:45 – 12:00	“Coupling Aging Mechanisms for Battery Degradation Estimation” – <i>Daniel-loan Stroe, Associate Professor, Aalborg University, Denmark</i>

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12:00 – 13:00	Lunch and Poster Session
13:00 – 13:40	“Power-to-X” – Uffe Vikøren Borup, CTO, Everfuel A/S
13:40 – 14:00	“Prospects of Artificial Intelligence for Power Electronics Applications” – Huai Wang, Professor, Aalborg University, Denmark
14:00 – 14:15	Coffee break
14:15 – 14:30	“V-Shaped Reliability Modelling in Power Electronics-Based Power Systems” – Saeed Peyghami, Assistant Professor, Aalborg University, Denmark
14:30 – 14:45	“Physics-informed Machine Learning for Condition Monitoring in Power Electronics” – Shuai Zhao, Assistant Professor, Aalborg University, Denmark
14:45 – 15:00	“Open-circuit fault diagnosis and fault-tolerant control for multi-level DAB converter” – Chaochao Song, Postdoc, Aalborg University, Denmark
15:00 – 15:15	“Probabilistic Risk Evaluation of Microgrids Considering Stability and Reliability” – Yubo Song, PhD student, Aalborg University, Denmark
15:15 – 15:30	“Reliability-Driven Probabilistic Forecast of Mission Profiles in Power Electronics Applications” – Monika Sandelic, PhD student, Aalborg University, Denmark
15:30 – 16:30	Visit to CORPE Test Facilities
16:30	End of the day

Registration no later than 30th May 2023. Registration link:

https://aauevents.microsoftcrmpartals.com/event/registration?id=CORPE_Annual_Symposium_20233104983052

Info/contacts

Amir Sajjad Bahman, amir@energy.aau.dk

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, Aarhus University, and two leading European universities. 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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Registration link



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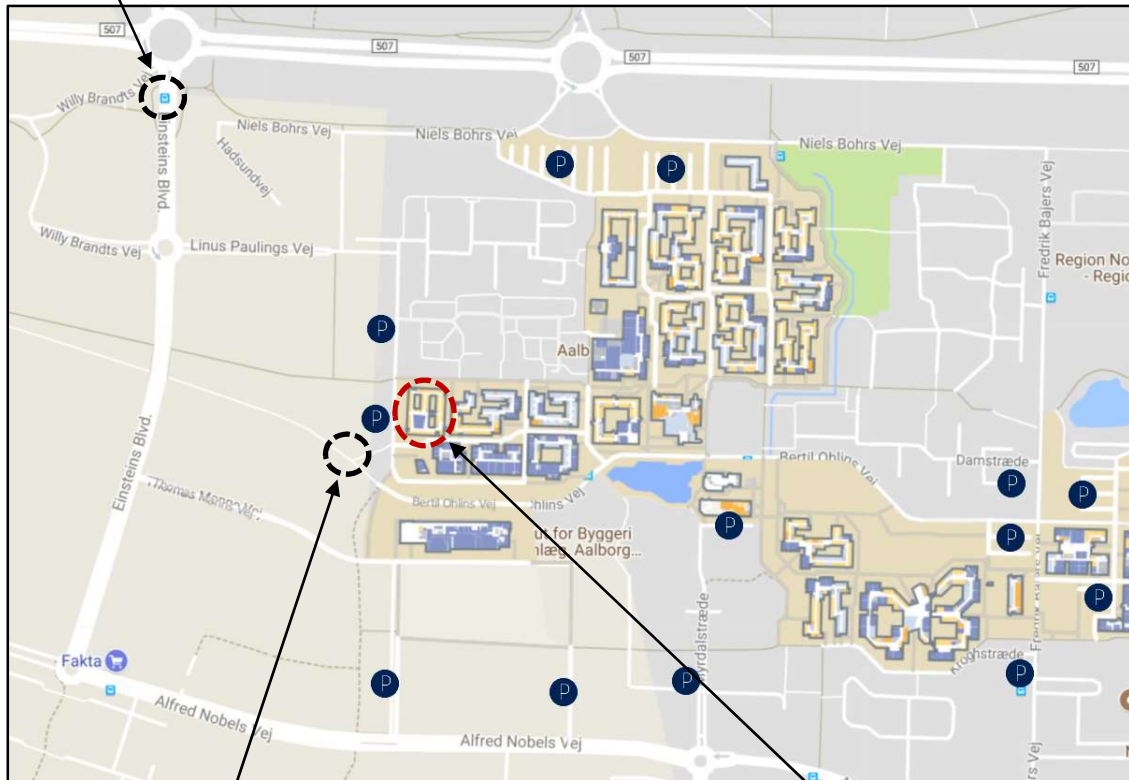
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Map and Directions

Venue: Aalborg University, Department of Energy, Pontoppidanstræde 111, 9220 Aalborg East, Denmark, Auditorium, room 1.177.

Number 12 bus stop



Number 2 bus stop

**Symposium location,
Pontoppidanstræde 111, Auditorium**

Directions from Aalborg Airport

The bus stop is directly outside the terminal building. Any number 12 bus will take you to both Aalborg city centre and directly to the university. The bus takes approximately 20 minutes to the centre and 40 minutes to the university. Alternatively, it is possible to take a taxi, which takes approximately 15 minutes to the city centre, or 25-30mins to Aalborg University.

Arriving by Car

If you arrive by car from highway E45, you choose Exit 26: Th Sauers Vej/Universitetsboulevarden. From Universitetsboulevarden you enter the roundabout and take the exit to Einsteins Boulevard. In the next roundabout, you take the third exit: Linus Paulings Vej. At the end of Linus, Paulings Vej turn right. On your right side is Pontoppidanstraede's parking lot. Turn right when you exit the parking lot on foot. The main entrance of Pontoppidanstraede 111 is on the corner of Toppentuestien and Pontoppidanstraede.

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Directions from Aalborg City Centre

Bus routes number 2 and 12 go directly to the Department of Energy, both stopping close to the Symposium venue. If taking number 12, get off at the stop 'Willy Brandts Vej (Einsteins Boulevard)' and it is around a 10-minute walk to the symposium venue. The number 2 bus stops at 'Pontoppidanstræde (Bertil Ohlins Vej)', which is directly outside the symposium venue. Both bus stops and the symposium venue are identified on the map above.

You can check detailed bus schedules at www.rejseplanen.dk (also available in English).

The phone number for Aalborg Taxi: +45 7025 2525 or +45 9810 1010.

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