University of Cyprus
Department of Electrical and Computer Engineering

KIOS
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Faculty of Engineering

KIOS Distinguished Lecture in Memory of Prof. Elias Kyriakides



Professor Frede Blaabjerg
Aalborg University, Denmark

Friday, 23 October 2026 | 13:30 | Engineering School, Building ENG10, Amphitheater B102 “Elias Kyriakides”

Power Electronics Technology - Trends and Applications

Abstract

The world is becoming more and more electrified combined with the energy consumption is steadily increasing – we expect doubling the electricity demand before 2050 - at the same time there is a large transition of power generation from fossil fuel to renewable energy which all together challenges the modern power system but also gives many new opportunities from a technology perspective. We see large steps being taken to electrify the transportation – where better environment, independency as well as higher efficiency are the driving factors. One of the most important technologies to move this forward is the power electronics technology which has been emerging for decades and challenges are still seen in the technology usage. This presentation will be forward looking in some exciting research areas to further improve the technology and the systems it is used in. Following main topics will be discussed :

- The Evolution of Power Semiconductor Devices
- Renewable Generation
- Reliability in Power Electronics and use of AI in Power Electronics based
- New Power System

Short Bio

Frede Blaabjerg has been full professor at Aalborg University in Denmark since 1998 in Power Electronics and Drives and has been working with different power electronics application like renewables, motor drives, EV’s, New Power Systems and in the last decade especially been focusing on Reliability Engineering and Power Electronics Based Power System Stability. He has over time trained more than 85 PhDs students, the same number of post docs, received numerous awards like the IEEE Edison Medal for his contributions in Renewables in 2020. He is Honoris Causa on three universities and well as honorary professor at one. He has been Editor in Chief of IEEE Trans. on Power Electronics, President of the IEEE Power Electronics Society and Chairman of the Danish Council for Research and Innovation Policy. For the moment he is Co-Lead of the one of the four Danish Pioneer Centers - CAPeX - Pioneer Center for Accelerating P2X Materials Discovery – a cross-disciplinary center discovering materials for Power to X processes https://capex.dtu.dk/. He is also having an ERC Synergy grant called SaferGrid together with 3 professors from RWTH Aachen.

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