

Invited Lecture

Power Electronics – Quo Vadis

Prof. Frede Blaabjerg, *Fellow, IEEE*, IEEE PELS President 2019-20

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The world is becoming more and more electrified combined with that the energy consumption is steadily increasing. At the same time there is a large transition of power generation from fossil fuel to renewable energy based which all together challenges the modern power system but also gives many opportunities. We also see now big steps being taken to electrify transportation – both better environment as well as higher efficiency are driving factors.

One of the most important technologies to move this forward is the power electronics technology which has been emerging for decades and still challenges are seen in the technology and the applications it is used. This presentation will be a little forward looking (Quo Vadis) in some exciting research areas in order further to improve the technology and the systems it is used in.

The following main topics will be discussed

- The evolution of power devices
- Renewable Generation
- Reliability in power electronics
- Power Electronic based Power System stability

At last some discussions about other hot topics will be given.



Professor Frede Blaabjerg (S'86–M'88–SM'97–F'03) was with ABB-Scandia, Randers, Denmark, from 1987 to 1988. From 1988 to 1992, he got the PhD degree in Electrical Engineering at Aalborg University in 1995. He became an Assistant Professor in 1992, an Associate Professor in 1996, and a Full Professor of power electronics and drives in 1998. From 2017 he became a Villum Investigator. He is honoris causa at University Politehnica Timisoara (UPT), Romania and at Tallinn Technical University (TTU) in Estonia.