

Tuesday, 29.9., 3:00 p.m. CET

### Power Electronics Technology - Quo Vadis

The world is becoming more and more electrified combined with that the 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 see also now big steps being taken to electrify the 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. 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.



**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 Tallinn Technical University (TTU) in Estonia.

His current research interests include power electronics and its applications such as in wind turbines, PV systems, reliability, harmonics and adjustable speed drives. He has published more than 600 journal papers in the fields of power electronics and its applications. He is the co-author of four monographs and editor of ten books in power electronics and its applications.

He has received 32 IEEE Prize Paper Awards, the IEEE PELS Distinguished Service Award in 2009, the EPE-PEMC Council Award in 2010, the IEEE William E. Newell Power Electronics Award 2014, the Villum Kann Rasmussen Research Award 2014, the Global Energy Prize in 2019 and the 2020 IEEE Edison Medal. He was the Editor-in-Chief of the IEEE TRANSACTIONS ON POWER ELECTRONICS from 2006 to 2012. He has been Distinguished Lecturer for the IEEE Power Electronics Society from 2005 to 2007 and for the IEEE Industry Applications Society from 2010 to 2011 as well as 2017 to 2018. In 2019-2020 he serves a President of IEEE Power Electronics Society. He is Vice-President of the Danish Academy of Technical Sciences too. He is nominated in 2014-2019 by Thomson Reuters to be between the most 250 cited researchers in Engineering in the world.