



Frede Blaabjerg (F' 03) was employed at ABB-Scandia, Randers, from 1987-1988. During 1988-1992 he was a PhD. student at Aalborg University. He became an Assistant Professor in 1992 at Aalborg University, in 1996 Associate Professor and in 1998 full professor in power electronics and drives. In 2000 he was visiting professor in University of Padova, Italy as well as becoming the part-time programme research leader at Research Center Risoe in wind turbines. Since 2006 he has been Dean of the Faculties of Engineering, Science and Medicine at Aalborg University, Denmark. In 2002 he was visiting professor at Curtin University of Technology, Perth, Australia. His research areas are in power electronics, static power converters, ac drives, switched reluctance drives, modelling, characterization of power semiconductor devices and simulation, power quality, wind turbines, custom power systems and green power inverter. He is involved in more than fifteen research projects with the industry. Among them has been the Danfoss Professor Programme in Power Electronics and Drives. He is the author or co-author of more than 600 publications in his research fields including the book "Control in Power Electronics" (Eds. M.P. Kazmierkowski, R. Krishnan, F. Blaabjerg) 2002, Academic Press. Out of those +400 papers are registered in IEEEExplore with more than 140 ISI-registered journal papers.

Dr. Blaabjerg is a member of the European Power Electronics and Drives Association and the IEEE Industry Applications Society Industrial Drives Committee. He is also a member of the Industrial Power Converter Committee and the Power Electronics Devices and Components Committee in the IEEE Industry Application Society. He is associated editor of the IEEE Transactions on Industry Applications, IEEE Transactions on Power Electronics, Journal of Power Electronics and of the Danish journal Elteknik. Since 2006 he has been Editor-in-Chief of the IEEE Transactions on Power Electronic. He has also been a Distinguished Lecturer for the IEEE Power Electronics Society from 2005 to 2008.

He has served as member of the Danish Technical Research Council in Denmark 1997-2003 and from 2001-2003 he was chairman. He has also been chairman of the Danish Small Satellite programme and the Center Contract Committee which supports collaboration between universities and industry. He became a member of the Danish Academy of Technical Science in 2001 and in 2003 he became a member of the academic council. From 2002-2003 he became a member of the Board of the Danish Research Councils. In 2004-2006 he was chairman of the programme committee Energy and Environment. In 2007 he became a member of board of the Danish High Technology Foundation and 2008 member of the board of the Danish Strategic Research Council. Finally he is also member of a number of international research councils.

He received the 1995 Angelos Award for his contribution in modulation techniques and control of electric drives, and an Annual Teacher prize at Aalborg University. In 1998 he received the Outstanding Young Power Electronics Engineer Award from the IEEE Power Electronics Society. He has received nine IEEE Prize paper awards during the last ten years (the last one in 2008) and another prize paper award at PELINCEC Poland 2005. In 2002 he received the C.Y. O'Connor fellowship from Perth, Australia, in 2003 the Statoil-prize for his contributions in Power Electronics and in 2004 the Grundfos Prize in acknowledgement of his international scientific research in power electronics. He became IEEE Fellow in 2003.

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Lecture Topic: Power Electronics and control for renewable energy systems

The global electrical energy consumption is still rising and there is a steady demand to increase the power capacity. It is expected that it has to be doubled within 20 years. The production, distribution and use of the energy should be as technological efficient as possible and incentives to save energy at the end-user should also be set up. Two major technologies will play important roles to solve the future problems. One is to change the electrical power production sources from the conventional, fossil (and short term) based energy sources to renewable energy resources. An other is to use high efficient power electronics in power generation, power transmission/distribution and end-user application. This presentation will discuss some of the most emerging renewable energy sources, wind energy and photovoltaics, which by means of power electronics are changing character from being a minor energy source to be acting as important power sources in the energy system. Issues like technology development, implementation, power converter technologies, control of the systems, synchronization, anti-islanding, grid codes, system integration and future trends will be addressed in the presentation.