

Title: Wide-band-gap based electrical power conversion

Abstract: Wide-band-gap semiconductor technology has made some important progress over the past years and devices can now be used and tested extensively. Yet, it is not fully clear if and how their disruptive potential can be fully exploited in the application and where a trade-off on the higher initial device cost is justified in terms of gained system-level benefits. Also, robustness and reliability deserve dedicated attention and validation solutions, as do packaging and integration. This talk critically reviews learning done over the past years, addressing devices in voltage classes ranging from 650 V and up to 3.3 kV.

Bio presenter: Alberto Castellazzi is Associate Professor in Power Electronics with the PEMC Group of the University of Nottingham, in the UK.

He holds a *Laurea* degree in Physics (1998) from the University of Milan, Italy, and a PhD degree in Electrical Engineering (2004) from TU Munich, in Germany and has had R&D positions in power electronics both in industry and academia, including affiliation to Siemens Corporate Technology, in Germany; ETH Zurich, in Switzerland; ALSTOM- PEARL, in France, and Kyoto University, in Japan.

His research interests are the characterisation and deployment of wide-band-gap power devices in established and upcoming power conversion applications, with a focus on transportation and renewable energies.

Dr. Castellazzi has supervised 10 PhD thesis to completion and has co-authored about 200 papers in specialist conferences and journals. He is a member of the Technical Programme Committee of the IRPS, ESREF and ECCE-Asia conferences and Guest Editor on a number of IEEE and MDPI special issues on wide-band-gap semiconductor technology and its applications.