Gallium Nitride: Welcome to the Power Electronics Revolution

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Power electronics is ubiquitous in modern society. It enables the power conversion in automotive, energy harvesting, IT infrastructures, consumer & industrial applications (from laptop chargers to data centers, from photovoltaic inverters to electric vehicles). At the core of power electronics, power transistors are operated as high-frequency high-voltage switches. Gallium nitride (GaN), a wide band-gap semiconductor, enables the implementation of smaller, faster and more efficient power transistors than silicon. In this lecture, we'll review the key elements to understand the highest quality and highest reliability GaN technology and its path to a successful commercialization.

Davide Bisi received the Ph.D. degree from University of Padova in 2015 and joined Transphorm in 2016. He's now leading multiple R&D projects towards the next generation of GaN materials and devices. He's Member of Technical Committee of ESREF and WIPDA conferences. Dr. Bisi is co-author on more than 50 peer-reviewed publications, co-inventor on 2 patents, and has been awarded 4 Best Paper Awards in the field of GaN technologies.

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Highest Performance, Highest Reliability GaN