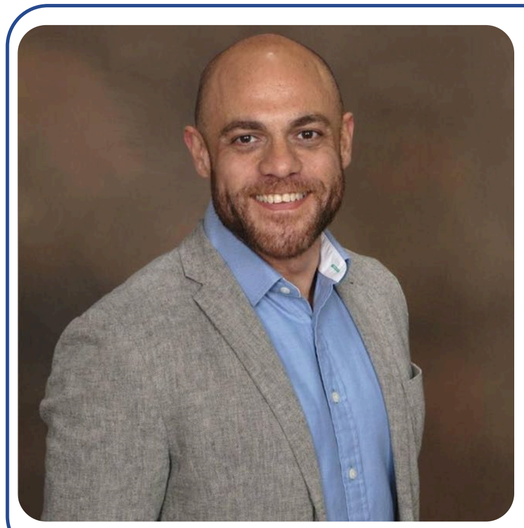
SMACD 2025
Istanbul-TURKIYE
"where circuits come alive"

KEYNOTE TALK



Speaker

DR. METE ERTURK

Senior Director,
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Dr Erturk is responsible for the business strategy and technology R&D roadmap of the power management business unit at Tower Semiconductor, a major silicon foundry with silicon fabs in USA, Italy, Israel, and Japan. He has previously worked for fabless power management companies in various leadership and executive roles and also served as co-founder / CEO of a power management IC startup. He has expertise in high voltage BCD process technology, PMICs, automotive isolated gate drivers, on-board chargers (OBC) and battery management systems (BMS), WBG power devices (GaN, SiC), IVRs (integrated voltage regulators) for heterogeneous multi-core processors, ASIL rated automotive product development, AEC-Q100 qualification, ISO26262 functional safety. Dr. Erturk has PhD/MS degrees in Electrical Engineering (semiconductor device physics) and also MBA training in Marketing & Finance. He has contributed to more than 40 patents and publications. His current work addresses megatrends such as automotive electrification and AI datacenter power delivery

AI Datacenter Power Delivery Modeling and Simulation Needs

Efficient power delivery is a major factor for AI datacenters, according to a recent market report estimating global data centers' electricity consumption in 2030 and beyond is challenging, as there are many variables to consider. Data suggests that continuous improvements in AI and data center processing efficiency could yield an energy consumption level of approximately 1,000 TWh by 2030. However, if those anticipated improvements do not materialize in the coming years, the energy consumption associated with data centers could likely rise above 1,300 TWh, directly impacting electricity providers and challenging climate-neutrality ambitions. In this context it is highly critical that circuits in the power delivery path of AI datacenters are designed and simulated with high accuracy. In this talk, I will cover the modeling and simulation challenges as well opportunities in this space.