



University of Tennessee Department of Civil & Environmental Engineering

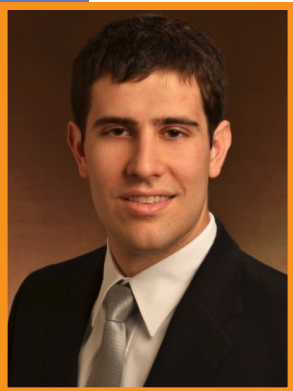
Transportation Seminar Series

Daniel Costinett, Ph.D.

Designing Power Electronics to Meet the Demands of Future Electric Vehicles

Thursday, March 13, 2014, 3:40 until 5:00 PM

327 John D. Tickle Building



In March 2012, President Obama announced the *EV Everywhere Grand Challenge*—to produce plug-in electric vehicles (PEVs) as an affordable and convenient form of transportation for the American family to replace gasoline-powered vehicles by 2022. Meeting these objectives will require significant advances in the electric-drive systems of PEVs, including 40% reduction in weight, 400% reduction in cost, and 40% reduction in power losses. At the heart of these systems are power electronic circuits, which control and convert between chemical, mechanical, and various forms of electrical energy. This talk will give an overview of the role of power electronics in the electric vehicle and their affects on transportation; it will present design tradeoffs and ongoing research at UTK that address the needs of future generations of electric vehicles.

Daniel Costinett is an Assistant Professor in the Department of Electrical Engineering and Computer Science at the University of Tennessee, Knoxville. He received his Ph.D. in Electrical Engineering at the University of Colorado at Boulder in 2013. In 2012, he assisted with research and course development as an instructor at Utah State University. His research interests include resonant and soft switching power converter design, high efficiency converters for data centers, energy harvesting, implantable devices, and electric vehicles.

For further information, contact Dr. Shashi Nambisan, shashi@utk.edu.

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