

IEEE CPE-POWERENG 2023 Conference

Participation Report

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In June 2023 I had the pleasure of presenting my research at the IEEE CPE-POWERENG 2023 conference which took place in Tallinn, the capital of Estonia which has been crowned as the European Green Capital with Tallinn University of Technology (Tal-Tech) kindly organizing the conference and the Nordic Hotel Forum serving as venue. I was able to attend the conference thanks to funding received from the Israeli Smart Transportation Research Center (ISTRC) to whom I am grateful for this opportunity.

The CPE-POWERENG conference is dedicated to research focused on energy and power systems with increasing coverage of topics in the field of electrical vehicles (EVs) and smart transportation solutions. It is one of the central events for discussion on the integration of electronics, instrumentation, information and communication technologies in energy-based applications. As such, it provides an opportunity to scientists, professional engineers and engineering students to present their work, publish their results, exchange ideas and network for future scientific and industrial collaborations.

During the event, I had the honor of presenting my research in front of leading experts in my field such as Prof. Johann W. Kolar of ETH Zurich and I also had the pleasure of attending many engaging presentations (including Prof. Kolar's keynote speech on the

future of smart electrical flying vehicles as a means to reducing traffic congestion in major cities). A number of presentations really stood out to me because they were relevant to both my research and the goals of ISTRC and I would like to mention a number of such presentations:

- M. J. Kasper, “Concepts and matching power semiconductor devices for compact on-board chargers”.
- G. Arena, “DC fast charging of electrical vehicles: a review of architecture and power conversion technology”.
- V. Rjabtsikov, “ISEAUTO self-driving vehicle dynamic model verification”.

The first two presentations can be seen as a summary of the smart electrical vehicle charging challenges and possible solutions. The first one addressed how semiconductor devices may be matched to electrical vehicle on-board charger applications. The second one surveyed possible topologies for smart charging of electrical vehicles. The third presentation addressed a very interesting and important topic of autonomous vehicles which is becoming increasingly relevant today.

In summary I would highly recommend the CPE-POWERENG conference to anyone who has interests in the field of power electronics for smart electrical vehicle applications. Finally, I would like to once again thank the ISTRC for funding my participation in these important proceedings and hope for many more collaborations in the future.