

IECON 2020 conference

Section of "Young Professionals & Students" of IES

Title:

Electric Vehicle Integration and its Impacts in Hot Climates

Abstract:

Electric vehicles (EVs) have emerged as an attractive and sustainable solution to decrease greenhouse gas emissions and energy consumption in transportation networks. In line with the transition to a low-carbon economy, the State of Qatar has set a bold goal to replace 10% of its vehicle fleet with EVs by 2030. On the other hand, rapid adoption of such EV levels requires a thorough investigation of obstacles arising in technological, economic and behavioral domains. Furthermore, Qatar characterized by hot and harsh climates where there can be some challenges with respect to the integration of electric vehicles in their road transport systems. For example, the uncontrolled charging of EVs may have disruptive impacts on the grid (power quality, transformer aging) which may require utilities to have additional capital investments.

This talk provides insights and initial outcomes from a research project in Qatar into this important research area by the Qatar Environment and Energy Research Institute (QEERI).

Biography:



Sertac Bayhan, Ph.D., SMIEEE, sbayhan@hbku.edu.qa, Senior Scientist and Assoc. Prof., Qatar Environment and Energy Research Institute, Hamad Bin Khalifa University, Doha, Qatar

Sertac Bayhan received the MS and PhD degrees in electrical engineering from Gazi University, Ankara, Turkey, in 2008 and 2012, respectively. His undergraduate studies also at the same university and he graduated as valedictorian. In 2008, he joined the Electronics and Automation Department, Gazi University, as a Lecturer, where he was promoted to Associate Professor in 2017. From 2014 to 2018, he worked at Texas A&M University at Qatar as Associate Research Scientist. Dr. Bayhan is currently working in Qatar Environment and Energy Research Institute (QEERI) as a Senior Scientist and he is a faculty member with the rank of Associate Professor in Sustainable Division of College of Science and Engineering at Hamad Bin Khalifa University.

Dr. Bayhan is the recipient of many prestigious international awards, such as the Research Fellow Excellence Award in recognition of his research achievements and exceptional contributions to the Texas A&M University at Qatar in 2018, the Best Paper Presentation Recognition at the 41st and

42nd Annual Conference of the IEEE Industrial Electronics Society in 2015 and 2016, Research Excellence Travel Awards in 2014 and 2015 (Texas A&M University at Qatar), and Researcher Support Awards from the Scientific and Technological Research Council of Turkey (TUBITAK). He has acquired \$13M in research funding and published more than 150 papers in mostly prestigious IEEE journals and conferences. He is also the coauthor of two books and four book chapters

Dr. Bayhan has been active Senior Member of IEEE. Because of the visibility of his research, he was elected as the Chair of IES Power Electronics Technical Committee and serves as a Co-Chair of IEEE-IES Student and Young Professional Activity Program. He currently serves as Associate Editor for IEEE TRANSACTIONS on INDUSTRIAL ELECTRONICS, IEEE Journal of Emerging and Selected Topics in Industrial Electronics, and IEEE Industrial Electronics Technology News, and Guest Editor for the IEEE TRANSACTIONS on INDUSTRIAL INFORMATICS.