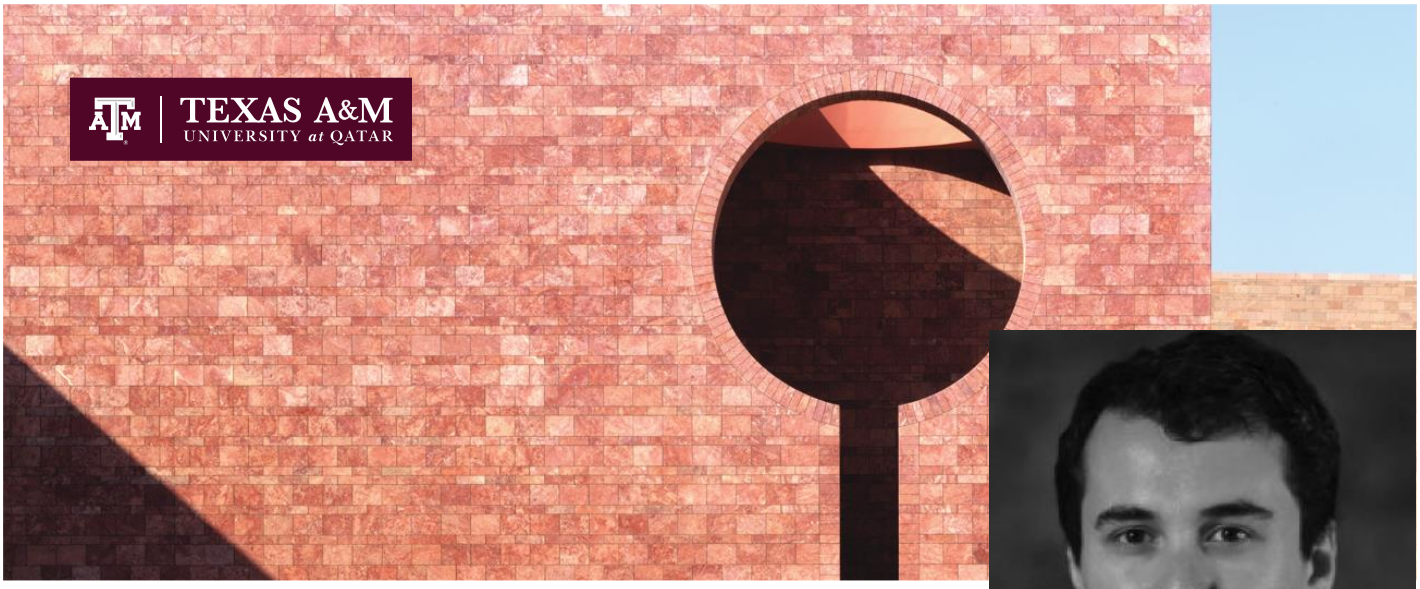

SMART TRANSPORTATION SYSTEMS TO ENABLE NET-ZERO IN ROAD TRANSPORTATION

I. Safak Bayram

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https://tamu.zoom.us/s/98187956624

ABSTRACT: Transport sector has the highest reliance on fossil fuels of any sector and accounts for more than one third of the global carbon emissions from end-use sectors. Transport-related energy consumption and associated carbon emissions have been snowballed in megacities as a consequence of traffic congestion stemming from high urbanisation rates and population growth. With increasing electric vehicle adoption rates, smart transportation systems can help to reduce congestion levels and ultimately eliminate carbon impacts. Smart transportation systems utilize a variety of technologies to monitor, evaluate, and manage transportation systems to enhance efficiency and safety. This presentation will mainly focus on the role of smart transportation systems on reducing energy consumption and carbon emissions. A detailed discussion emerging technology and how they facilitate energy reduction will be discussed. Moreover, recent advances on electric vehicles and the role of charging stations on net zero targets will be presented. In the last part of the talk, region-specific challenges for the GCC region will be discussed.

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I. Safak Bayram (Senior Member, IEEE) received the B.S. in electrical and electronics engineering from Dokuz Eylul University, Izmir, Turkey in 2007, the M.S. in elecommunications from the University of Pittsburgh in 2010, and the Ph.D. in electrical and computer engineering from North Carolina State University in 2013. From January 2014 to December 2014, he worked as a Postdoctoral Research Scientist at Texas A&M at Qatar. From 2015 to 2018, he was an Assistant Professor with the College of Science and Engineering and a Staff Scientist with QEERI and HBKU. Since 2019, he has been a Lecturer/Assistant Professor (Chancellor's Fellow) with the University of Strathclyde, Glasgow, U.K. He received the Best Paper Award at the Third IEEE International Conference on Smart Grid Communications (SmartGridComm) and the First IEEE Workshop on Renewable Energy and Smart Grid, in March 2015. He is an associate editor in IET Electrical Systems in Transportation and IET Energy Conversion and Economics. Moreover, Dr. Bayram is the TPC co-chair of IEEE SmartGridComm 2023 which will be held in Glasgow, UK.