Connected Automated Vehicle Research at the Center for Sustainable Mobility

**Connected Vehicles** (CVs) are an emerging technology that stand to generate transformative improvements in the roadway transportation system. CV technology encompasses a set of applications that connect vehicles to each other and to the road infrastructure using vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications, collectively known as V2X. More generally, travelers also communicate with the cloud through smartphone applications, creating connected travelers (T2X). These technologies generate real-time data that can be leveraged to control traffic and route travelers/vehicles optimally. With the emergence of vehicle automation in conjunction with vehicle connectivity, collectively known as connected automated vehicles (CAVs), new opportunities are available to enhance transportation system efficiency. The presentation will provide an overview of the current research within the Center for Sustainable Mobility at the Virginia Tech Transportation Institute on CAV research.

**January 4, 2019**

10:00am - 11:00am

**Goodwin 524**

**Hesham A. Rakha**

Professor of Engineering
Department of Civil and Environmental Engineering
Virginia Tech

**Hesham A. Rakha** received the B.Sc. (honors) in civil engineering from Cairo University, Cairo, Egypt, in 1987 and the M.Sc. and Ph.D. degrees in civil engineering from Queen's University, Kingston, ON, Canada, in 1990 and 1993, respectively. He is currently the Samuel Reynolds Pritchard Professor of Engineering with the Charles E. Via, Jr. Department of civil and environmental engineering at Virginia Tech, a Courtesy Professor with the Bradley Department of Electrical and Computer Engineering at Virginia Tech, and the director of the Center of Sustainable Mobility at the Virginia Tech Transportation Institute. He has authored/coauthored over 430 refereed publications in the areas of traffic flow theory, large-scale transportation system modeling, traveler and driver behavior modeling, use of artificial intelligence in traffic control and prediction, intelligent transportation systems, connected automated vehicles, network control, energy and environmental modeling, and safety modeling. Dr. Rakha, in addition to being an Associate Editor of IEEE Transactions on ITS, is a member of the ITE, the ASCE, the SAE and TRB. He is a Professional Engineer in Ontario, Canada.