

TEMPLE UNIVERSITY
Department of Mathematics

Applied Mathematics and Scientific Computing Seminar

Room 617 Wachman Hall

Wednesday, 7 February 2018, 4:00 p.m.

Autonomous Vehicles for Traffic Control

by Raphael Stern

University of Illinois at Urbana-Champaign

Abstract. Smart transportation systems are in the midst of a fundamental change. Autonomous vehicles may soon begin emerging on urban roads, and have the potential to fundamentally alter the traffic flow. We investigate the extent to which a small number of autonomous vehicles may be able dampen traffic instabilities to benefit the overall traffic flow. We present both analysis and experimental results, and present the image processing methods that enable the data collection during the the experiments. Furthermore, we investigate the impacts on urban air quality that a small number of autonomous vehicles may have.