Head:	Dr. A. Kouvelas
Topic:	**Analyzing average acceleration vs. speed ability of commercial vehicles based on vehicle dynamics modeling**
Assistant:	M. Makridis
Registration:	www.ivt.ethz.ch/en/studies/downloads/assignments.html#registration

Car-following models describe the longitudinal movement of individual vehicles in microsimulation environments. Usually, their behavior is split into two parts, the free-flow acceleration (without any vehicle ahead) and car-following behavior. It has been observed that free-flow acceleration plays an important role (often neglected) in the appearance of complex traffic phenomena. Furthermore, car-following models, even after calibration, cannot realistically approximate vehicle dynamics. This work will analyze the dynamics of over 1500 commercial vehicles and attempt to conclude on a cluster of representative vehicles that adequately describe the entire fleet.

Links:	-
Additional remarks:	Good skill in Python programming is essential. Good understanding of traffic simulation and optimization is needed. Registration for this project work takes place directly via the professorship. Interested students should contact the supervisor Dr. Anastasios Kouvelas, akouvela@ethz.ch.
Minimum credits:	11 ECTS
Recommended lectures:	-