The Hong Kong Polytechnic University
Department of Logistics and Maritime Studies
Research Seminar

Data-Driven Approached to Improving Safety and Environmental Impacts of Passenger Vehicles

by

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Date: 7 November 2019 (Thursday)
Time: 10:30am - 11:30am
Venue: M802, Li Ka Shing Tower
The Hong Kong Polytechnic University

(Conducted in English)

Abstract:

Globally, jurisdictions administer emissions inspection and maintenance (I/M) programs for light-duty vehicles to manage safety components and to improve ambient air quality—abating emissions of carbon monoxide, fine particulate matter, and the oxides of nitrogen, by requiring over-emitting vehicles to be repaired or retired.

In this talk we discuss the presence of vehicle I/M programs around the world, and the different ways these programs have been implemented, and how modern technologies can be used to further enhance safety and emissions. We use data from several states in the United States to show current failure rates and also how such data could be used to improve testing standards, such as those used for tire tread thickness, to improve safety.

Bio:

Scott is a professor in the Departments of Civil and Environmental Engineering & Engineering and Public Policy at Carnegie Mellon University in Pittsburgh, USA.

His research and teaching focus on engineering, economic, and social decision-making under uncertainty via large datasets, computation, data analytics, and visualization methods. His current interests are in the use of connected vehicle technologies to provide high-resolution data to improve mobility. Examples of particular topics of interest include using such data to improve vehicle safety and emissions inspections and to implement vehicle mileage-based usage fees.

Previously, Matthews contributed to development of tools for environmental life cycle assessment (LCA) of products and processes, estimating and tracking environmental effects across global supply chains (e.g., carbon footprinting), and the sustainability of infrastructure systems.

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All are welcome!