



Postdoctoral Associate – Behavioral Modeling Future Urban Mobility Interdisciplinary Research Group

Singapore-MIT Alliance for Research and Technology Centre

SMART is a major new research enterprise established by the Massachusetts Institute of Technology (MIT) in partnership with the National Research Foundation of Singapore (NRF). SMART serves as an intellectual hub for international research collaborations, not only between MIT and Singapore, but also involving researchers from the region and beyond. At SMART, we identify and carry out research on critical problems of societal importance. SMART is a magnet attracting and anchoring global research talent, while simultaneously instilling and promoting a culture of translational research and entrepreneurship in Singapore. Five interdisciplinary research groups (IRGs) have been established to date: BioSystems and Micromechanics (BioSym), Centre for Environmental Sensing and Modeling (CENSAM), Future Urban Mobility (FM), Infectious Diseases (ID) and Low Energy Electronic Systems (LEES)

Project Overview

Part of the FM research agenda involves the development of SimMobility framework that Integrate and link together various mobility-sensitive behavioral models with state-of-the-art simulators to predict impacts of mobility demands on transportation networks, services and vehicular emissions. This particular postdoc position focuses on the development of improved capabilities of the different advanced forms of mobility options such as mobility on-demand and Uber like services etc., within medium term time-frame of SimMobility. Furthermore, the center encourages exploration of new ideas to advance understanding of the individual's behavior in deciding the use of complex public transportation system of the region which comprises of metros (trains), LRT, BRT, buses, feeder buses and other forms of public transport.

Responsibilities

- Analyze and handle big data sets generated from advance technologies such as smart phones, smart cards in the context of different mobility options.
- Participate in the modelling design process and in the implementation of the designed framework within the SimMobility simulation platform.
- Explore new methods, procedure and algorithms to postulate model specifications and estimation of advance models.
- Monitor the progress of the project, supervision of PhD Student, regularly meet with PIs and disseminate new findings in journals/conferences.

Requirements

- PhD in transportation modelling, econometrics, or a related field.
- Knowledge of urban economics, discrete choice models, econometrics and/or integrated modeling is also expected.
- Knowledge/past experience in public transportation research and modelling is a preferential requirement.
- Possess experience with programming in scientific languages (e.g. Python, R, Matlab, Julia)
- Good communications skills.

The position will be based at the SMART FM Offices on the new campus of the National University of Singapore (NUS), with the possibility of traveling to MIT (up to a few months) as part of the international collaboration. The postdoctoral associate will work with an integrated team of faculty, researchers and students from MIT and Singaporean University partners, including: Prof. Moshe Ben-Akiva, MIT; Prof. Christopher Zegras, MIT.

To Apply

Interested applicants should send a cover letter expressing specific interest in the position and a detailed CV with information on education qualifications, work experience, list of publications, and citizenship status to andrew.tong@smart.mit.edu. Subject should read: **Postdoctoral Associate – Behavioral Modeling**.

We regret that only shortlisted candidates will be notified.