

Research Fellow (Post-Doc)

Project Title: Pro-active transport management for Semi-Rapid Transit Systems (SRT)

TUM Create is doing research in planning, operation and infrastructure requirements for Semi-Rapid Transit Systems (SRT) in large megacities using Singapore as a case study.

We are looking for an applicant with a PhD / Doctoral degree in the area of Intelligent Transportation System and a Master degree / background in transportation engineering. The overall objective of the work is to develop and to define the specific research directions within the research task, doing some of the research, and supervise PhD students. The willingness to write and publish papers about the research results is essential.

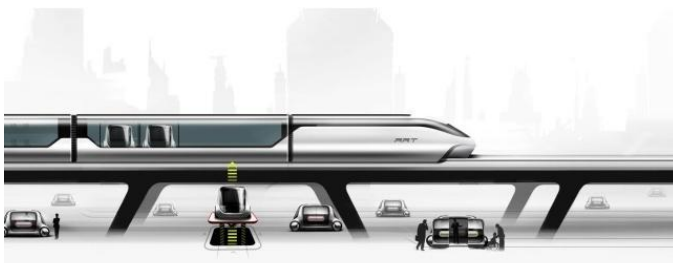
Research Project Description:

Pro-active transport management for Semi-Rapid Transit Systems (SRT) are strategic traffic management technologies that aim at an efficient adaptive use of the existing road infrastructure by both SRT and private transport, enabling an accelerated and reliable operation at stops and other facilities. Pro-active management measures for the use of road space (e.g. dynamic lane dedication, virtual right of way or ad-hoc platooning) shall be investigated. Additionally, related operational technologies and planning schemes for public transport acceleration shall be embedded into the pro-active management approach and be linked with basic elements, like stop design, boarding and alighting procedures. An important part of the overall approach is the integration of purpose designed new types of autonomous vehicles. Valid complete pro-active traffic management scenarios shall be defined, modeled and implemented in computer simulation. After assessment, draft deployment specifications shall be derived. A small scale pilot demonstration will be conducted in conjunction with the extensive simulation studies.

Requirements:

- PhD / Doctoral degree in the area of Intelligent Transportation Systems and a Master degree / background in transportation engineering for private and public transport
- Knowledge of PTV VISSIM tool, Geographical information systems (QGIS, ArcGis) and of programming languages – Python, R, Matlab, or others – is an added advantage.
- Able to work in a multicultural environment.
- Willingness for several short-term work stays at TUM, Munich.

Position is available immediately. Interested candidates should send their full applications via email, including a resume, academic transcripts and a cover letter to Dr. Andreas Rau (andreas.rau@tum-create.edu.sg). We thank all applicants for the interest, but only shortlisted candidates will be notified.



ABOUT TUM CREATE

We are developing cutting-edge technologies and transportation concepts for public transport to meet the growing transport and sustainability challenges in fast-growing megacities. Germany's Technische Universität München (TUM) and Singapore's Nanyang Technological University (NTU) — two world-leading engineering universities — have come together to collaborate on this ambitious joint research programme. It is funded by Singapore's National Research Foundation.