

FUTURE URBAN MOBILITY: CONCEPTS REDUCING THE IMPACT OF MOBILITY ON CLIMATE AND ENERGY

Dates: Thursday 22 November, 9:30-14:30,
Friday 23 November, 9:30-11:00,
Monday 26 November, 09:30-11:00

Location: B10.81, R318

Lecturer: Prof. Stephan Winter, University of Melbourne

Credits: 2

Contents

This short course will introduce students into some concepts of future urban mobility that aim to reduce the impact of urban mobility on climate and energy. The discussion in the course will deliberately stay at the abstract level of concepts, but in hands-on projects participants will explore investigating a concept of their choice. The short course will highlight the complexity of urban mobility interrelated with human behaviour, environment, and technology, and allude to potentially disruptive factors. The lectures will be based on principles and theories of time geography, computational transportation, and human-computer interaction. The projects may use SUMO or another simulation platform, or stay conceptual.

Course topics

- Session 1: Introduction to the course; introduction to concepts of space and time; trends in urban mobility
- Session 2: Fundamental measures of mobility, representations of urban mobility space, reasoning on these representations, data availability, simulation
- Session 3: Concepts of future urban mobility, interaction with mobility, mobility as a platform
- Session 4: Presentations of project results

Schedule

- Session 1: Thursday 22 November, 09:30-11:00
- Session 2: Thursday 22 November, 13:00-14:30
- Session 3: Friday 23 November, 09:30-11:00
- Project review: Friday 23 November, on appointment
- Technical support: Friday 23 November, 19:00, on appointment, from Melbourne
- Session 4: Monday 26 November, 09:30-11:00
- The project work (in small groups) will span the whole period including the weekend.

Lecturer

Stephan Winter is Professor in Spatial Information Science at the University of Melbourne, specializing in human spatial cognition, navigation, and intelligent transportation. He is pioneering formal and stochastic models of urban envi-



ronments, and leads research in intelligent spatial systems, computational transportation science, and probabilistic time geography. He is engaged in IEEE ITSS, ACM SIGSPATIAL, and ISPRS. He holds a PhD from the University of Bonn, and a habilitation from the Technical University Vienna.

Pre-requisites and material

- Bring your smartphone
- Bring your laptop
- Programming skills (any)

Registration

Please register via the [online form](#).

