

Workshop II: Traffic Estimation

Monday October 12, 2015

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Dawn Woodard** (Cornell University)
Predicting Travel Time Reliability using Mobile Phone GPS Data
- 10:00–10:15 *Break*
- 10:15–11:05 **Hani Mahmassani** (Northwestern University)
Simulation-based Approaches for Traffic Estimation and Prediction in Networks: Models and Applications
- 11:15–11:30 *Break*
- 11:30–12:20 **Daniel Work** (University of Illinois at Urbana-Champaign)
Traffic monitoring in safety critical environments
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Lyudmila Mihaylova** (University of Sheffield)
Sequential Monte Carlo Methods for Tracking and Inference in Intelligent Transportation Systems
- 3:30–4:00 *Break*
- 4:00–4:50 **Hans van Lint** (Technische Universiteit te Delft)
Fast state estimation for large road networks: localised extended and ensemble Kalman Filters
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Tuesday October 13, 2015

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Xuegang (Jeff) Ban** (Rensselaer Polytechnic Institute)
Modeling Dynamic User Equilibria as Differential Complementarity Systems (DCS)
- 10:00–10:15 *Break*
- 10:15–11:05 **Jerome Le Ny** (École Polytechnique de Montréal)
Privacy-Preserving Filtering: Application to Traffic Estimation
- 11:15–11:30 *Break*

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- 11:30–12:20 **Simo Ali-Löytty** (Tampere University of Technology)
GNSS orbit prediction and Parametric Fingerprint Positioning Methods Using Crowdsourced Data
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Nour-Eddin El Faouzi** (French Institute of Science and Technology for Transport, Development and Networks)
Monitoring Road Network in the Era of Big Data and Connected Vehicles
- 3:30–4:00 *Break*
- 4:00–4:50 **Vadim Sokolov** (Argonne National Laboratory)
Bayesian Analysis of Traffic Flow Data

Wednesday October 14, 2015

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Marta Gonzalez** (Massachusetts Institute of Technology)
Big data for modeling traffic: basic mechanisms and urban applications
- 10:00–10:15 *Break*
- 10:15–11:05 **Cynthia Chen** (University of Washington)
Using transportation and emerging datasets to understand disasters
- 11:15–11:30 *Break*
- 11:30–12:20 **Aude Hofleitner** (Facebook)
Inferring and understanding travel and migration movements at a global scale
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Martin Treiber** (Technische Universität Dresden)
Parameter estimation of traffic flow models - how data selection, data preparation, and the objective function influence the results
- 3:30–4:00 *Break*
- 4:00–4:50 **Yucheng Hu** (Qinghua (Tsing Hua) University)
City traffic forecasting using taxi GPS data

Thursday October 15, 2015

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Nima Riahi** (University of California, San Diego (UCSD))
The Seismic Footprint of Traffic
- 10:00–10:15 *Break*
- 10:15–11:05 **Dong Ngoduy** (University of Leeds)
Traffic State Estimation from Partial Bluetooth and GPS observation
- 11:15–11:30 *Break*
- 11:30–12:20 **Christian Claudel** (University of Texas at Austin)
Network traffic state estimation using Hamilton-Jacobi equations
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Andreas Malikopoulos** (Oak Ridge National Laboratory)
Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles
- 3:30–4:00 *Break*
- 4:00–4:50 *Short Talks TBD*

Friday October 16, 2015

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Henk Wymeersch** (Chalmers University of Technology)
From traffic estimation to macroscopic traffic control via multi-commodity back-pressure
- 10:00–10:15 *Break*
- 10:15–10:35 **Carlos Canudas de Wit** (GIPSA Lab)
Short Talk 1
- 10:35–11:05 **Andres Ladino** (Centre National de la Recherche Scientifique (CNRS))
Short Talk 2
- 11:15–11:30 *Break*
- 11:30–12:20 **Thomas Bewley** (University of California, San Diego (UCSD))
String stability of atmospheric sensor balloon swarms on zero-radial-velocity manifolds within hurricanes

