

Workshop III: Traffic Control

Monday October 26, 2015

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Carlos Canudas de Wit** (GIPSA Lab)
Distributed Games in Traffic Ramp Metering
- 10:00–10:15 *Break*
- 10:15–11:05 **Roberto Horowitz** (University of California, Berkeley (UC Berkeley))
- 11:15–11:30 *Break*
- 11:30–12:20 **José Ramón Domínguez Frejo** (Universidad de Sevilla)
Distributed and Hybrid Model Predictive Control for freeway traffic networks
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Nikos Geroliminis** (École Polytechnique Fédérale de Lausanne (EPFL))
Hierarchical Control of congestion in smart cities with big multi-sensor data
- 3:30–4:00 *Break*
- 4:00–4:50 **Claudio Roncoli** (Technical University of Crete)
Network-wide motorway traffic control in presence of Vehicle Automation and Communication Systems
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Tuesday October 27, 2015

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Montasir Abbas** (Virginia Polytechnic Institute and State University)
Agent-based modeling, simulation, and control—some applications in transportation
- 10:00–10:15 *Break*
- 10:15–11:05 **Giacomo Como** (Lund University)
Resilient distributed control of traffic flow networks
- 11:15–11:30 *Break*

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- 11:30–12:20 **Murat Arcak** (University of California, Berkeley (UC Berkeley))
Formal synthesis for traffic control
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Anders Rantzer** (Lund University)
Exploiting monotonicity in control synthesis for traffic networks
- 3:30–4:00 *Break*
- 4:00–4:50 **Samuel Coogan** (University of California, Los Angeles (UCLA))
History's Principal Components Repeat Themselves: Using Data for Traffic Predictive Control

Wednesday October 28, 2015

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Pravin Varaiya** (University of California, Berkeley (UC Berkeley))
Doubling throughput on urban roads by platooning
- 10:00–10:15 *Break*
- 10:15–11:05 **Alex Kurzhanskiy** (University of California, Berkeley (UC Berkeley))
Macroscopic Modeling of Freeway Networks with Managed Lanes
- 11:15–11:30 *Break*
- 11:30–12:20 **Alexandros Sopasakis** (Lund Institute of Technology)
Re-building of the traffic model from non-equilibrium dynamics and partial observations
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Heiko Schilling** (TomTom)
TomTom Navigation: Quicker Journeys through Algorithm Engineering
- 3:30–4:00 *Break*
- 4:00–4:50 **Samitha Samaranyake** (Massachusetts Institute of Technology)
Uncertainty aware routing and active control for stochastic networks: application to road traffic

Thursday October 29, 2015

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Christos Cassandras** (Boston University)
Adaptive traffic light control
- 10:00–10:15 *Break*

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- 10:15–11:05 **Konstantinos Ampountolas** (University of Glasgow)
Urban traffic congestion: store-and-forward modelling and mitigation approaches
- 11:15–11:30 *Break*
- 11:30–12:20 **Federica Garin** (INRIA)
Towards on-line optimization of urban traffic lights
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Apostolos Kotsialos** (University of Durham)
Computational algorithms for predictive control of traffic in motorway networks
- 3:30–4:00 *Break*
- 4:00–4:50 **Ioannis Papamichail** (Technical University of Crete)
Integrated feedback-based ramp metering and mainstream traffic flow control for multiple bottlenecks on motorways

Friday October 30, 2015

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Markos Papageorgiou** (Technical University of Crete)
Freeway Traffic Management in the Era of VACS (Vehicle Automation and Communication Systems)
- 10:00–10:15 *Break*
- 10:15–11:05 **Petros Ioannou** (University of Southern California (USC))
Load Balancing in Multimodal Transportation Systems
- 11:15–11:30 *Break*
- 11:30–12:20 **Gabriel Gomes** (University of California, Berkeley (UC Berkeley))
Convex relaxation problems in traffic control
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Antonella Ferrara** (Università di Pavia)
Event-Triggered Control of Freeway Traffic Systems
- 3:30–4:00 *Break*
- 4:00–4:50 **Simona Sacone** (Università di Genova)
Distributed control and state estimation in freeway systems

