

19th International Symposium on Transportation and Traffic Theory

Draft Program

Updates to be made as new information becomes available (last updated June 27, 2011)

All events to take place at the symposium venue (the Claremont Hotel) unless specified otherwise.

Sunday, July 17, 2011

16:00 – 18:00 Symposium sign-up

18:00 – 20:00 Welcome Reception

Monday, July 18

8:00 – 9:00 Symposium sign-up

8:00 – 9:00 Continental Breakfast

9:00 – 9:30 *Welcome and Opening Remarks*

Remarks delivered by Robert Birgeneau, Chancellor, UC Berkeley

Brief tributes to the late Professors Leutzbach and Koshi delivered by R. Allsop, M. Kuwahara and M.G.H. Bell.

9:30 – 10:45 **Session I: Theories of Highway Bottlenecks**

Moderator: C. Buisson, Ecole Nationale des Travaux Publics d'Etat, France

1. Capacity drops at merges: an endogeneous model

L. Leclercq (presenter), Universite de Lyon, France; J. Laval, Georgia Institute of Technology, USA; N. Chiabaut, Universite de Lyon, France

2. Control strategies on urban freeways: the case of a diverge bottleneck

G. Gunther, J. Coeymans, J. Munoz and J. Herrera (presenter), Pontifica Universidad Catolica de Chile

3. Extended bottlenecks, the fundamental relationship and capacity drop on freeways

B. Coifman (presenter) and S. Kim, Ohio State University, USA

10:45 – 11:05 Coffee Break

11:05 – 12:20 **Session II: Scheduled Transportation (surface)**

Moderator: A. Ceder, University of Auckland, New Zealand

4. Optimal inter-area coordination of train rescheduling decisions

F. Corman, Delft Univ of Technology, Netherlands; A.D. D'Ariano (presenter) and D. Pacciarelli, Universita degli Studi RomaTre, Italy; M. Pranzo, Universita degli Studi di Siena, Italy

5. Design of a rail transit line for profit maximization in a linear transportation corridor

Z. Li (presenter), Hong Kong Polytechnic University & Huzhong University of Science and Technology; W.H.K. Lam, Hong Kong Polytechnic University; S.C. Wong, University of Hong Kong; A. Sumalee, Hong Kong Polytechnic University

6. Design and implementation of efficient transit networks: procedure, case study and validity test

M. Estrada (presenter), M. Roca-Riu, H. Badia and F. Robuté, Center for Innovation in Transport, Technical University of Catalonia, Barcelona, Spain; C.F. Daganzo, University of California, Berkeley, USA

12:20 – 13:45 Lunch

13:45 – 15:25 Session III: Demand Analysis and Behavior

Moderator: T. Morakawa, University of Nagoya, Japan

7. Cognitive cost in route choice with real-time information: an exploratory analysis

S. Gao (presenter), Univ of Massachusetts, Amherst, USA; E. Frejinger, Royal Institute of Tech, Stockholm, Sweden; M. Ben-Akiva, Massachusetts Institute of Technology, USA

8. Estimating time of day demand with errors in reported preferred times: an application to airline travel

R. Brey (presenter), Universidad Pablo de Olavide, Sevilla, Spain; J.L. Walker, University of California, Berkeley, USA

9. Dynamics of information generation and transmissions through a social network in non-recurrent transport behaviour

T. Iryo (presenter), K. Yamabe and Y. Asakura, Kobe University, Japan

10. A maximum entropy-least squares estimator for elastic origin-destination trip matrix estimation

C. Xie (presenter), K. Kockelman and S.T. Waller, University of Texas, Austin, USA

15:25 – 15:45 Coffee Break

15:45 – 17:00 Session IV: Traffic Measurement

Moderator: H. Koutsopoulos, Royal Institute of Technology, Sweden

11. Hysteresis phenomena of a macroscopic fundamental diagram in freeway networks

N. Geroliminis (presenter), Ecole Polytechnique de Lausanne, Switzerland; J. Sun, Univ of Minnesota, USA

12. On the fundamental diagram and supply curves for congested urban networks

R. Liu (presenter), T. May and S. Shepherd, University of Leeds, UK

13. Implementing kinematic wave theory to reconstruct vehicle trajectories from fixed and probe sensor data

B. Mehran (presenter), M. Kuwahara and F. Naznin, University of Tokyo, Japan

17:00 – 17:15 Coffee Break

17:15 – 18:05 **Session V: Pricing**

Moderator: R. Allsop, University College London, UK

14. On the existence of pricing strategies in discrete time heterogeneous single bottleneck model

K. Doan (presenter), S. Ukkusuri and L. Han, Purdue University, USA

15. Nonlinear pricing on transportation networks

S. Lawphongpanich (presenter) and Y. Yin, University of Florida, Gainesville, USA

19:00 – 21:00 Wine and Cheese Reception (UC Berkeley Art Museum)

Tuesday, July 19

8:00 – 9:00 Continental Breakfast

9:00 – 10:40 **Session VI: Network Analysis**

Moderator: M. Florian, Universite de Montreal, Canada

16. A splitting rate model of traffic re-routing and traffic control

M. Smith (presenter), University of York; R. Mounce, University of Cambridge, UK

17. A tractable class of algorithms for reliable routing in stochastic networks

S. Samaranayake, S. Blandin (presenter) and A. Bayen, University of California, Berkeley, USA

18. Dynamic network loading: a stochastic differentiable model that derives link state distributions

C. Osorio, Massachusetts Institute of Technology, USA; G. Flötteröd (presenter) and M. Bierlaire, Ecole Polytechnique Fédérale de Lausanne, Switzerland

19. Modeling heterogeneous risk-taking behavior in route choice: a stochastic dominance approach

X. Wu (presenter) and Y. Nie, Northwestern University, USA

10:40 – 11:00 Coffee Break

11:00 – 12:15 **Session VII: Transportation in Emergencies**

Moderator: E. Miller-Hooks, University of Maryland, USA

20. Managing evacuation networks

C.F. Daganzo and S. So (presenter), University of California, Berkeley, USA

21. Models for relief routing: equity, efficiency and efficacy

M. Huang, K. Smilowitz (presenter) and B. Balcik, Northwestern University, USA

22. Animal dynamics based approach for modeling pedestrian crowd egress under panic conditions

N. Shiwakoti (presenter), M. Sarvi, G. Rose and M. Burd, Monash University, Australia

12:15 – 13:45 ***Lunch and Mini-Workshop***

Moving towards implementation of wireless connectivity in surface transportation

P. Appel, Administrator, Research & Innovative Technology Admin, US Dept of Transportation

The integration of social and behavioral sciences in Civil Infrastructure Systems: an illustration from performance measurement.

K. Triantis, Director, Civil Infrastructure Systems, US National Science Foundation

13:45 – 15:00 **Session VIII: Traffic Control**

Moderator: M. Papageorgiou, Technical University of Crete, Greece

23. PAMSCOD: Platoon-based arterial multi-modal signal control with online data

Q. He (presenter), K.L. Head and J. Ding, University of Arizona, USA

24. Development and evaluation of a constrained optimization model for traffic signal plan transition

J. Lee, Korea Transport Institute; B.M. Williams (presenter), North Carolina State University, USA

25. Efficiency and equity of ramp control and capacity allocation mechanisms in a freeway corridor

Q. Tian (presenter), HJ Huang, Beijing University of Aeronautics and Astronautics, PR China; H. Yang, Hong Kong University of Science and Technology; Z. Gao, Beijing Jiaotong University, PR China

15:00 – 15:30 Break & Group Photo

15:30 – 16:45 **Session IX: Scheduled Transportation (surface & air)**

Moderator: G. Nemhauser, Georgia Institute of Technology, USA

26. Dynamic ride-sharing: a simulation study in metro Atlanta

N. Agatz, Rotterdam School of Management, Netherlands; A.L. Errera (presenter), Georgia Institute of Technology, USA; M.W.P. Savelsbergh, Commonwealth Scientific and Industrial Research Organisation, Sydney, Australia; X. Wang, Georgia Institute of Technology

27. Optimal route decision with geometric ground-airborne hybrid model under weather uncertainty

Y. Yoon (presenter), Korea Advanced Institute of Science and Technology, Korea; M. Hansen, University of California, Berkeley; M.O. Ball, University of Maryland, USA

28. Coordinated aviation network resource allocation under uncertainty

A.M. Churchill (presenter) and D.J. Lovell, University of Maryland, USA

16:45 – 17:00 Coffee Break

17:00 – 17:50 **Session X: Micro & Macro Traffic Theories**

Moderator: M.G.H. Bell, Imperial College, UK

29. Platoon-based traffic flow model for estimating breakdown probability at single-lane expressway bottlenecks

Y. Shiomi (presenter), Kyoto University, T. Yoshii, Ehime University, R. Kitamura, Kyoto University, Japan

30. A porous flow approach to modeling heterogeneous traffic in disordered systems

R. Nair (presenter), University of Maryland; H.S. Mahmassani, Northwestern University; E. Miller-Hooks, University of Maryland, USA

19:00 – 22:00 Symposium Reception & Banquet (Craneway Pavilion, Point Richmond)

Wednesday, July 20

8:00 – 9:00 Continental Breakfast

9:00 – 10:15 **Session XI: Policy**

Moderator: A. Goodchild, University of Washington, USA

31. The economics of parking provision for the morning commute

Z. Qian (presenter), University of California, Davis, USA; F. Xiao, Southwest Jiaotong University, PR China; H.M. Zhang, University of California, Davis

32. Proactive detection of high collision concentration locations on highways

K. Chung (presenter), California Dept. of Transportation; K. Jang and S. Madanat, University of California, Berkeley, USA; S. Washington, Queensland University of Technology, Australia

33. Optimality of environmental policies in air transport markets and changes in the schedule delay: a theoretical approach

M.P. Socorro (presenter), Universidad de Las Palmas de Gran Canaria; O. Betancor, Universidad de Las Palmas and Fundacion de Estudios de Economia Aplicada, Spain

10:15 – 10:35 Coffee Break

10:35 – 11:50 **Session XII: Highway Traffic Oscillations**

Moderator: P. Wagner, German Aerospace Center, Germany

34. Characterization of traffic oscillation propagation under nonlinear car-following laws

X. Li and Y. Ouyang (presenter), University of Illinois, USA

35. Evidence of a convective instability in congested traffic flow: a systematic empirical and theoretical investigation

M. Treiber (presenter) and A. Kesting, Technische Universität Dresden, Germany

36. Freeway traffic oscillations: microscopic analysis of formations and propagations using wavelet transform

Z. Zheng (presenter) and S. Ahn, Arizona State University; D. Chen and J. Laval, Georgia Institute of Technology, USA

11:50 – 12:30 *Closing*

12:30 *Lunch*