Session I

Oral session 1: Incident and accident (Chair: Alan Nicholson)

(4) Incident Alert by an Anomaly Indicator of Probe Trajectories
Masanori Yoshida, Shogo Umeda, Yoshio Kawakami and Masao Kawahara

(9) Tensor robust principal component analysis with continuum modeling of traffic flow: Application to abnormal traffic pattern extraction in large transportation networks
Stasislav Lykov and Juvencio Audurera

(22) Traffic signal optimisation in disrupted road networks, including drivers’ routing
Dana Ahadavayeh, Dong Ngocdey and Alan Nicholson

(33) An analysis of risk factors for rear-end accident on urban expressway considering accident severity
Satoshi Hyodo and Tomoyuki Todoroki

(67) Effect of Road Pavement Ages on Traffic Accident Risks
Takahiro Tsubota, Celso Fernando, Yoshihiko Yoshii and Hirotsuki Shrayanagi

Oral session 2: Traffic flow (Chair: Huaosuo Yeo)

(3) Traffic state estimation using small imaging satellites and connected vehicles
Tori Seo and Takahito Kasakabe

(27) Impact of VSL location on capacity drop: A case of sag and tunnel bottlenecks
Irene Martinez and Wen-Long Jin

(51) Analysis on sag bottleneck phenomena based on multiclass traffic state estimation
Moto Takeshima and Yasuhito Shimizu

(57) A New Cell Transmission Model with Priority Vehicles and Special Lanes
Wen-Long Jin and Kentaro Wada

Special session 1: Wide-area disaster management (Chair: Takamasa Iryo)

(34) Effect of delay in information propagation on traffic congestion
Masayuki Kuchii, Takamasa Iryo, Masaya Furutani and Masao Kawahara

(52) On the implementation of high performance computing extension for day-to-day traffic assignment
Wasuwat Petprakob, Lalith Wijerathne, Takamasa Iryo, Junji Urata and Kazuki Fukuda

(54) Scalable HPC enhanced agent based system for simulating mixed mode evacuation of large urban areas
Lalith Maddugadara, Wasuwat Petprakob, Leonel Aguilar and Munee Horii

(65) Fast calculation of dynamic traffic assignment by parallelised network loading algorithm
Takamasa Iryo, Junji Urata, Kazuki Fukuda, Genaro Jr Peque, Wijerathne Lalith and Wasuwat Petprakob

(66) Development of a Traffic Demand Simulator under a Disaster Restoration Period
Junji Urata, Takamasa Iryo and Riki Kawasaki

Lunch and Coffee break

Session II

Oral session 3: Pedestrian & mixed traffic (Chair: Majid Sarvi)

(20) Dynamic data collection of following and merging behavior in mixed traffic
Anuj Budhkar, Abhishek Kumar Maurya and Vijit Maji

(35) Design of Variable Guidance for Pedestrian Evacuation
Yi-Ying Lin

(58) Modified Generalized Definitions for the Traffic Flow Characteristics under Heterogeneous, No-Line-Disciplined Traffic Streams
Suvin P. Venthurathiyil and Madhukar Ray-Chuchu

(62) Simulating “strategic” decisions for pedestrians’ evacuation
Milad Haghani and Majid Sarvi

Oral session 4: Microscopic simulation (Chair: Jaume Barceló)

(14) Investigating the performance of SPSA in Simulation-Optimization approaches to transportation problems
Xavier Ros-Roca, Lidia Monterro, Arne Schreck and Jaume Barceló

(45) A modified particle swarm optimization algorithm to distribute lane changes in a freeway weaving segment
David Suljic, Naser Sabar and Edward Chu

(46) Simulating Interactions between Pedestrians, Segway Riders and Cyclists in Shared Spaces using Social Force Model
Charitha Dias, Hiroki Nishiuchi, Satoshi Hyoudou and Tomoyuki Todoroki

(85) Calibration of Gipps’ CA-Following Model for Trucks and its Impacts on Fuel Consumption
Johana Cattin, Ludovic Legler, Florian Persyn and Nor-Eddin El Fassi

Oral session 5: Prediction 1 (Chair: Masao Kawahara)

(49) Recurrent Neural Network Based Driving Cycle Development for Light Duty Vehicles in Beijing
Duoquan Qiu, Yuan Li and Dapeng Qiao

(69) A Long Short-Term Memory Neural Network Approach for Traffic Density Estimation with Sensor-equipped Probe Vehicles
Daizhi Nan, Ritu Lavanya, Incheul Yang, Won Hoon Jeon and R. Jayakrishnan

(81) Assessing spatiotemporal correlations from data for short-term traffic prediction using multi-task learning
Rafael Mena-Yedu, Jordi Casas and Ricard Gualda

Coffee Break

Session III

Oral session 6: Public transport and transport policy (Chair: Fumitsuka Kurashchi)

(23) Optimization of Transit Timetables Considering Transit Assignment
Hua-Yen Wu, Kanticha Korsetthakarn, Yan-Ju Chen, Chia-Yu Kang

(32) Integrated Network Transport Simulator to Evaluate Transport Policy for Reduction of Carbon Dioxide Emission
Masashi Okushima

(37) Optimization of urban transit network design and timetable for round-trip routes
Yan-Ju Chen, Chia-Yu Kang, Yi-Ying Lin Kanticha Korsetthakarn and James C. Chu

(41) Identifying passengers who are at risk of reducing public transport use: A survival time analysis using smart card data
Hiroshi Nishiuchi and Makoto Chikarasai

Oral session 7: Driving behavior (Chair: Agachai Samalee)

(29) A Hybrid Method for Predicting a Potential Next Rest Stop of Commercial Vehicles
Rathachai Chawateel, Thanachai Threesak, Agachai Samalee and Nattaphon Chankaw

(53) An Analysis of Attentional Disengagement Effect on Driver’s Cognition of Road Gradient at Sag Sections
Hiroshi Shrayanagi, Yoshihiko Yoshii and Satoshi Hyodo

(56) A Study on the Average Travel Speed on Interrupted Flow Multilane Highways
Edvin Akanwahunah, Mihho Iryo and Hideki Nakamura

(59) Impact of the Direction of the Horizontal Curves on the Operating Performance of the Vehicles on Hilly Terrain
Regulas Shallam, Suvin P. Venthurathiyil, Madhukar Ray-Chuchu and Anjan Kumar Sadasangamiah

Oral session 8: Prediction 2 (Chair: Edward Chu)

(66) Predicting congestion maps using convolutional long short-term-memory
Yun Li, Majid Sarvi, Kureen Khoshelem and Milad Haghighi

(39) Real-time lane-based queue length prediction: a deep learning approach
Swangyoon Lee, Kan Xie, Dong Ngocdey, Mehdi Keyvan-Ekhtarian and Hong Yang

(83) Short-term prediction for bike-sharing service using machine learning
Bo Wang and Inki Kim

Coffee Break

Gala dinner at Dogo Yamayota
Nanka Memorial Hall

9:45 - 10:15
Oral session 9: CASE (Connected, autonomous, shared, and electric)

Chiar. Yusaku Asakura

(36) A Study on the impact of AV-HDV mixed traffic on flow dynamics of single-lane motorway
Yuki Kikumoto, Miho Iryo, Emee Ohran and Hidetsuki Nakamura

(31) Spatial distribution of Blablar’s intensity peer-to-peer ride-sharing trips: Case study of Spain
Azrael Chamorro-Olva and Daisuke Fukuda

(70) Simulation-Based Forecasting the Impacts of Autonomous Driving
Peter Sukennik, Jochem Lohmüller and Johannes Schickisch

(84) The uncapacitated battery swapping facility location problem with localized charging system serving electric buses fleet
Wentao Jing, Inhi Kim and Kun An

10:15 - 11:35
Coffee Break

Session IV

Oral session 10: Data collection and new data (Chair: William H.K. Lam)

(1) Identification of road bottlenecks on urban road networks using crowdsourced traffic data
Saktitra Kumargave, Dimantha De Silva and Saman Jayaweera Bandara

(24) Feature Extraction of Inter-region Travel Pattern Using Random Matrix Theory and Mobile Phone Location Data
Wataru Nakashita, Hironobu Yamaguchi and Daisuke Fukuda

(28) Freight Traffic Analytics from National Truck GPS Data in Thailand
Asgatkar Samulder, Teroevoort Steigroote, Nataphon Chankunwar,
Thanonchiat Theepakul, Hung Wai Ho and William H.K. Lam

(48) Traffic Data Characterization: Review and Challenges
Sara Rezai, Ashish Bhaskar and Edward Chung

11:35 - 12:10
Quick lunch

12:10 -
Excursion

Nanka Memorial Hall

9:00 - 9:20
Poster session (Chair: Takahiro Tsuchiya)

Almi Hall

(2) A Study on Road Network Perimeter Control Policy for Reducing Air Pollution in Urban Area / Sanghoon Kim, Seohyun Tak, Yeon Kim and Hwansoo Yeo
(7) How desired speed level affects collective behavior of merging pedestrian crowds: insights from laboratory and simulated experiments / Zahra Shahhossein and Majid Sarvi
(8) Design of robust signal Timings for arterial traffic variations using macroscopic simulation / Chaitali Shrikar, Nassar Sabar, Edward Chung and Ashish Bhaskar
(12) Travel-Demand Forecasting to Predict Demand for New Mobility Services Employing Autonomous Vehicles / Ken Hidaka and Takahiro Shiga
(13) Application of amp collectors in nairobi cdb for transport planning / Yoshiya Nakagawa, Junji Ishibashi, Hiroaki Asao, Babsu Mukoko and Koichiro Tamura
(15) Modelling Cycling Flow for the estimation of cycling risk at a moose urban spatial level / Suzanne Meade and Dr. Kathryn Stewart
(17) The Effectiveness of Historical Travel-time Information of Road Network in Shared Autonomous Taxi System / Zhigang Liu, Tomio Miwa, Weiliang Zeng and Takayuki Morikawa
(18) Quantitative Analysis Method of Traffic Service by Traffic Congestion under Developing Country / Tsutomu Tsuboi
(19) Proposal of vehicle control algorithm to achieve optimum traffic flow in a weaving section under fully controlled condition in urban expressway / Shinji Tanaka and Tomoyoshi Shiraishi
(21) Integration of Bus Network Design and Dial-a-ride Scheduling / Hsin-Hui Shih, Chia-Yu Kang, Yi-Jing Lin, Kanshiro Kawaiishakuma, Yun-Jun Chen and James C. Chu
(36) Cleaning Wi-Fi Probe Request Data to Estimate Travel Time Reliability in Mixed Traffic / Md. Shohidul, Takahiko Kusakabe and Takashi Oguchi
(48) Estimating Missing Path on Trajectories Trip by using Bluetooth Data: Case study of downtown area in Bangkok, Thailand / Rattanaporn Kawiklangiam, Pattanaporn Wongsriyok, Tetsuhiro Izishita, Atsushi Fukuda and Soravit Naruptit
(42) Applicability of Virtual Reality Systems for Evaluating Pedestrians’ Perception and Behavior / Miho Iryo-Ikuno, Yu Hasegawa and Churelka Dias
(50) Study on traffic condition lle operating bus Rapid Transit system in Hanoi / Dung Nguyen and Yoshiyaka Kajita
(64) Representation of sag bottleneck phenomena by using commercial microscopic traffic simulators / Makio Nakai, Kenkichi Nakazawa and Tatsuro Ishii
(77) Taxi passenger’s getting on point prediction using deep learning / Dongyan Liu, Juoyoung Kim and Seungjae Lee
(78) A Study on the Effect of the Development of V2X-communication on the Improvement of Road Function / Sangyong Na, Seungjae Lee and Juoyoung Kim
(87) REAL-TIME TRAFFIC SIGNAL CONTROL UNDER V2X ENVIRONMENT USING DEEP Q NETWORK / Sangchul Jung, Juoyoung Kim and Seungjae Lee
(82) Urban growth, transport planning, air quality and health: A multi-spatial data analysis framework for a linear meso-centric city / Judith Y. W. Fang and Richard D. Connors
(88) High Collision Concentration Location Identification Method Based on Optimization Technique / Jinwoo Lee, Ilee Papakonstantinou, Koichiro Tamura and Dong-Kye Kim

9:20 - 9:40
Coffee Break

Nanka Memorial Hall

9:40 - 11:00
Session V

Oral session 11: Network & MFD (Chair: Takahiki Oguchi)

(5) Relationship between the macroscopic fundamental diagram hysteresis and the spatial distribution of density for a multimodal network
Annu M. Wadhabala, Sehban Hameed and Fantikusa Karuschi
(38) Cross comparison of spatial partitioning methods for urban transportation network
Shin Hiayu Hiyahi, Takao Dannoji, Qian Ge and Daisuke Fukuda
(47) Using taxi GPS data for macroscopic traffic monitoring in large scale urban networks: calibration and MFD derivation
Shoufeng Lu, Victor L. Knoop and Mehdi Keyvan-Elbazani
(74) Local traffic pattern extraction with network-wide consistency in large urban networks
Yaroslav Hernandez Potomkin, Tamara Dyak and Jordi Casas

11:00 - 11:20
Closing ceremony

Nanka Memorial Hall

11:20 - 12:05
Keynote 3

Freywang Traffic Control via Variable Speed Limits / Markos Papageorgiou, Technical University of Crete

12:05 - 12:20
Closing ceremony