

# INTERNATIONAL SYMPOSIUM ON INTELLIGENT TRANSPORT SYSTEMS RESEARCH

Saturday 14 April 2012

Jointly Organized by  
Highway & Transportation Engineering Technical Division, IEM

and  
Advanced Mobility Research Center (ITS Center), the University of Tokyo

Supported by  
ITS Malaysia, ITS Japan,  
Transportation Science Society of Malaysia, and Universiti Tunku Abdul Rahman

## ITS research and its global application to traffic solutions

Intelligent Transport Systems (ITS) utilizes communication, control, information and computer technologies in an integrated manner to improve the safety, capacity and efficiency of the transportation system. This symposium will introduce various international cutting-edge research and applications in ITS. Internationally recognized academics and leading industry experts will share their insights on ITS research and its application globally.

## Saturday 14 April 2012 Hotel Armada Petaling Jaya

08:15 Registration

09:00 Opening Remarks

**Yoshihiro SUDA** (Director of ITS Center, the University of Tokyo)

**Mohamad Bin HUSIN** (President of ITS Malaysia)

09:20-12:35 Morning Program

13:35-16:50 Afternoon Program

16:50 Closing Remarks

**KHOO Hooi Ling** (Assist. Professor, Universiti Tunku Abdul Rahman)

Latest program and symposium speaker information are available online.

<http://www.its.iis.u-tokyo.ac.jp/isir2012>

## Registration

Numbers are limited. Please register early.

Online registration is available until 11 April.

<http://www.myiem.org.my/events/eventregistration.aspx?id=553>

## Contact

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c/o The Institution of Engineers, Malaysia

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## Morning Program (Tentative)

### ITS Innovation

**Mohamed Rehan Bin Karim**

*Professor, University of Malaya*

Use of WIM system as an Integrated Traffic Data Collection and Monitoring Device

**Young-Jun Moon**

*Director of Center for ITS & Olympic Transport, the Korea Transport Institute, S. Korea*

International Standards Initiatives in Transportation along ITS R&D

**Jason Chang**

*Professor, National Taiwan University, Taiwan*

Innovative Public Transport Services: Web Taxi and Cloud Taxi

### Traffic Management

**Ahmad Farhan Mohd Sadullah**

*Professor, Universiti Sains Malaysia*

Getting the Outcomes from ITS: A case of supply v demand approach

**Masao Kuwahara**

*Professor, Tohoku University, Japan*

Traffic Management using ITS sensing data

**Toshio Yoshii**

*Professor, Ehime University, Japan*

Development of an Area metering control method using Macroscopic Fundamental Diagram

**Edward Chung**

*Professor, Queensland University of Technology, Australia*

Traffic management using Bluetooth Data

## Afternoon Program (Tentative)

### Vehicle control & Image processing

**Yoshihiro Suda**

*Professor, Director of ITS Center, the University of Tokyo, Japan*

Sustainable Transport and ITS for Energy

**Tay Yong Haur**

*Associate Professor, Universiti Tunku Abdul Rahman*

Android-based platform: ITS Applications and Future Trends

**Katsushi Ikeuchi**

*Professor, the University of Tokyo, Japan*

Four-dimensional virtual cities and smart tourism

**Riza Atiq Rahmat**

*Professor, Director for Academic Advancement, Universiti Kebangsaan Malaysia*

ITS: Application of Cutting-edge Technology to Enhance Transport Management

### Sustainability

**Takashi Oguchi**

*Professor, the University of Tokyo, Japan*

Challenge for the smarter EV transport society

**Shinji Tanaka**

*Assistant Professor, the University of Tokyo, Japan*

International Collaboration for CO2 Emission Evaluation using Simulation Models

**Sorawit Narupiti**

*Associate Professor, Chulalongkorn University, Thailand*

Smart Mobility Research Center (SMRC) at Chulalongkorn University

# INTERNATIONAL SYMPOSIUM ON INTELLIGENT TRANSPORT SYSTEMS RESEARCH

14 April 2012 (Saturday)  
Hotel Armada Petaling Jaya  
Selangor Darul Ehsan, MALAYSIA

BEM approved CPD/PDP hours: 6  
Ref. No. IEM12/HQ/046/S

## SYNOPSIS

Intelligent Transport Systems (ITS) utilises communication, control, information and computer technologies in an integrated manner to improve the safety, capacity and efficiency of the transportation system. This symposium will introduce various international cutting-edge research and applications in ITS. Internationally recognised academicians and leading industry experts will share their insights on ITS research and its application globally.

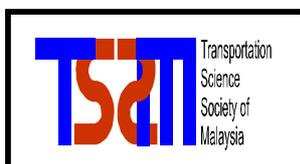
Organised by



The Institution of Engineers, Malaysia  
(Highway & Transportation Engineering Technical Division)



Supported by



<b>TENTATIVE PROGRAMME</b>			
08:15	-	09:00	<i>Registration</i>
09:00	-	09:20	<b>Opening Remarks</b> <b>Yoshihiro SUDA</b> (Professor, Dr, Director of ITS Center, Institute of Industrial Science, The University of Tokyo, Japan) <b>Mohamad Bin HUSIN</b> (Dato, Ir, Hj, President of ITS Malaysia, Malaysia)
09:20	-	10:35	<b>SESSION 1 (ITS Innovation)</b> <b>Mohamed Rehan bin KARIM</b> (Professor, Ir, University of Malaya, Malaysia)
09:20	-	09:45	Use of WIM system as an Integrated Traffic Data Collection and Monitoring Device <b>Young-Jun MOON</b> (Director of Center for ITS & Olympic Transport, Dr, The Korea Transport Institute, South Korea)
09:45	-	10:10	International Standards Initiatives in Transportation along ITS R&D <b>Jason CHANG</b> (Professor, Dr, National Taiwan University, Taiwan (R.O.C))
10:10	-	10:35	Innovative Public Transport Services: Web Taxi and Cloud Taxi
10:35	-	10:55	<i>Morning break</i>
10:35	-	10:55	<b>SESSION 2 (Traffic Management)</b> <b>Ahmad Farhan MOHD SADULLAH</b> (Professor, Dr, Universiti Sains Malaysia, Malaysia)
10:55	-	11:20	Getting the Outcomes from ITS: A case of supply v demand approach <b>Masao KUWAHARA</b> (Professor, Dr, Tohoku University, Japan)
11:20	-	11:45	Traffic Management using ITS sensing data <b>Toshio YOSHII</b> (Professor, Dr, Ehime University, Japan)
11:45	-	12:10	Development of an Area metering control method using Macroscopic Fundamental Diagram <b>Edward CHUNG</b> (Professor, Dr, Queensland University of Technology, Australia)
12:10	-	12:35	Traffic management using Bluetooth Data
12:35	-	13:35	<i>Lunch</i>
13:35	-	15:15	<b>SESSION 3 (Vehicle Control &amp; Image Processing)</b> <b>Yoshihiro SUDA</b> (Professor, Dr, Director of ITS Center, Institute of Industrial Science, The University of Tokyo, Japan)Sustainable Transport and ITS for Energy
13:35	-	14:00	<b>TAY Yong Haur</b> (Associate Professor, Dr, Universiti Tunku Abdul Rahman, Malaysia)
14:00	-	14:25	Android-based platform: ITS Applications and Future Trends <b>Katsushi IKEUCHI</b> (Professor, Dr, Institute of Industrial Science, University of Tokyo, Japan)
14:25	-	14:50	Four-dimensional virtual cities and smart tourism <b>Riza Atiq RAHMAT</b> (Professor, Dr, Ir, Universiti Kebangsaan Malaysia, Malaysia)
14:50	-	15:15	ITS: Application of Cutting-edge Technology to Enhance Transport Management
15:15	-	15:40	<i>Afternoon break</i>
15:40	-	16:50	<b>SESSION 4 (Sustainability)</b> <b>Takashi OGUCHI</b> (Professor, Dr, Institute of Industrial Science, University of Tokyo, Japan)
15:40	-	16:00	Challenge for the smarter EV transport society <b>Shinji TANAKA</b> (Assistant Professor, Dr, Institute of Industrial Science, University of Tokyo, Japan)
16:00	-	16:25	International Collaboration for CO2 Emission Evaluation using Simulation Models <b>Sorawit NARUPITI</b> (Associate Professor, Dr, Chulalongkorn University, Thailand)
16:25	-	16:50	Smart Mobility Research Center (SMRC) at Chulalongkorn University
16:50	-	17:10	<b>Closing Remarks</b> <b>KHOO Hooi Ling</b> (Assistant Professor, Dr, Engr, Universiti Tunku Abdul Rahman, Malaysia)

#### **BIODATA OF SPEAKERS**

##### **Yoshihiro SUDA (Professor, Dr, Director of ITS Center, Institute of Industrial Science, The University of Tokyo, Japan)**

Dr. Yoshihiro SUDA is Professor and Director of Advanced Mobility Research Center (ITS Center) and Chiba Experiment Station, Institute of Industrial Science, The University of Tokyo. He graduated from Department of Mechanical Engineering, Faculty of Engineering, The University of Tokyo in 1982 and Graduate School in 1987, and he got Doctor Degree of Engineering. After working at Hosei University and Queen's University at Kingston, Ontario, Canada, he has been Professor of The University of Tokyo from 2000. His major research fields are automotive and rail vehicle dynamics and control, Intelligent Transport System and Human-Machine Interface. He is board member of ITS Japan and Railway Technical Research Institute. He also worked as members of government committee and academic society.

##### **Mohamad Bin HUSIN (Dato, Ir, Hj, President of ITS Malaysia, Malaysia)**

Dato' Ir. Mohamad graduated from the University of Southampton, UK in 1977 and holds a Master of Science in Civil Engineering from the University of Pittsburgh, USA. He has over 30 years experience, across many diverse fields including civil engineering, project management, contract administration as well as traffic engineering. He is currently the Deputy Director General (Business Sector) for Public Works Department (JKR), Malaysia. Besides, he is also the Deputy President of the Road Engineering Association of Malaysia (REAM), and the Deputy President of Institution of Highway and Transportation (Malaysia Branch).

##### **Mohamed Rehan bin KARIM (Professor, Ir, University of Malaya, Malaysia)**

Prof. Mohamed Rehan is a professor at the Civil Engineering Department, University of Malaya since 2003. He graduated from University of Leeds, UK, back in 1980. He is currently the Director of the Center for Transportation Research (CTR) at the Faculty of Engineering, University of Malaya. His research interests include sustainable transport, road safety, pavement materials and intelligent transport systems. He co-authored three books and published a significant number of scientific/technical papers in reputable international journals and proceedings. He also holds a patent on an integrated weigh-in-motion system. He is also a Director of Integrated Transportation Solutions Sdn Bhd, an R&D spin-off company wholly owned by University of Malaya entrusted to manufacture R&D products from CTR. Prof. Rehan is also the President of the Transportation Science Society of Malaysia (TSSM) and a Board Member of the Eastern Asia Society for Transportation Studies (EASTS) based in Tokyo, Japan.

##### **Young-Jun MOON (Director of Center for ITS & Olympic Transport, Dr, The Korea Transport Institute, South Korea)**

Dr. Moon is a director of the Center for ITS and Olympic Transport Research in the Korea Transport Institute (KOTI). He has joined KOTI in 1998, right after he graduated in the Univ. of Illinois at Urbana-Champaign (UIUC) with a doctoral degree of Transportation Engineering in the Dept. of Civil and Environmental Engineering. He started his career as a research engineer in the Agency for Defense Development (ADD) in 1987, developing Korean Surface to Air Missile (KSAM) for the military weapon systems. He participated in ITS World Congress and the International Standard Organizations in ITS area as a leader of ITS R&D in Korea from 1999 for developing a variety of ITS projects including the wireless interface signal control systems project utilizing DSRC. Since then, he has been involved in ISO/TC204 as not only an expert in WG14 vehicle/roadway warning and control system but also a Convenor of WG17, Nomadic & Portable Devices for ITS service. He has been a member of the International Program Committee of ITS World Congress since 2005 and also a chair of IPC for the 17th ITS World Congress in Busan, 2010. He is also a member of National Science and Technology Council under the President House, and a chair of Transportation Division in PyeongChang 2018 Olympic and Paralympic Winter Games Bid Committee since 2010.

**Jason CHANG (Professor, Dr, National Taiwan University, Taiwan (R.O.C))**

Dr. Chang is a professor of Civil Engineering Department and director of Advanced Public Transport Research Center in National Taiwan University in Taipei Taiwan. He is also a visiting professor of China Academy of Transportation Sciences. He has been actively involved in many professional societies and activities, including Executive Director of Transportation Institute in Taiwan, Vice-President of ITS Taiwan, BOD member of ITS Asia Pacific Forum, BOD member of the World Congress on ITS, BOD Member of Eastern Asia Society for Transport Studies, and Member of America Society of Civil Engineers, Member of ITE. He is an advisor to Mayor and Taipei City Government since 1994. In the past twelve years, Professor Chang has been invited as advisor for promotion of sustainable urban and transport development by various international institutes and NGOs. He is now advisor of China Urban Transport Development Strategy Partnership and Demonstration Project, sponsored by the Global Environment Facility, for more than 15 Chinese Cities in demonstration of Public Transport-oriented Development, Bus Rapid Transit, and ITS Applications for Sustainable Mobility. Professor Chang's research focuses on public transport, transport economics and policy, e-payment and sustainable development policy.

**Ahmad Farhan MOHD SADULLAH (Professor, Dr, Universiti Sains Malaysia, Malaysia)**

Prof. Farhan has nearly 18 years working experience in transport and traffic engineering as well as road safety. He is presently a professor in transport studies school in civil engineering, Universiti Sains Malaysia. He is a council member of the Road Engineering Association of Malaysia (REAM), the Chair of the REAM Standing Committee on Road Safety and is also a member of the Land Public Transport Commission. He has been involved in numerous international and national research and consultancy projects and has made a multitude amount of contribution to published research works. His areas of research interest include sustainable transport issues, travel behaviour, traffic engineering, and road safety. Prof Farhan obtained his Bachelor of Civil Engineering from the Catholic University of America, Washington DC, before pursuing his MSc in Transport from the Imperial College London and subsequently Ph.D in Transport from the University of London, at University College London.

**Masao KUWAHARA (Professor, Dr, Tohoku University, Japan)**

Dr. Masao Kuwahara is a professor at Graduate School of Information Sciences, Tohoku University. After receiving PhD from University of California, Berkeley, he has 25-year experience in research and education on traffic engineering in University of Tokyo and then moved to Tohoku University in 2010. His major interests are dynamic network analysis, traffic simulation, highway capacity, traffic signal control, ITS, etc. He has been appointed a member of various committees of ministries, local governments, and public corporations on transportation planning and traffic management. He has also served as an International Advisory Committee member of ISTTT as well as an editor in several international journal including ITS Journal, Transportmetrica, and Sustainable Transportation, etc.

**Toshio YOSHII (Professor, Dr, Ehime University, Japan)**

Dr. Toshio Yosii is a professor at Civil and Environmental Engineering, Ehime University, Japan. After graduating the master course of University of Tokyo, he started his academic career as a research associate at Institute of Industrial Sciences, University of Tokyo, in 1997. Then he move to Kochi Institute of Technology, Kyoto University, and Ehime University in 2010. His major research interests are network traffic simulation model, traffic safety analysis and evaluation.

**Edward CHUNG (Professor, Dr, Queensland University of Technology, Australia)**

Edward is a Professor of Intelligent Transport Systems and the inaugural Director of the Smart Transport Research Center at the Queensland University of Technology (QUT). He was previously Head of the ITS group at Laboratoire des Voies de Circulation (LAVOC) at EcolePolytechniqueFédérale de Lausanne in Switzerland, where he led a project team on traffic and safety monitoring in Europe. He is also a visiting professor at the ITS Center, located at the University of Tokyo. Edward is focusing on leading research to integrate motorway management systems and to realise the benefits of real time travel information provision in reducing congestion. Edward holds a Bachelor of Civil Engineering with Honours, and a PhD from Monash University.

**TAY Yong Haur (Associate Professor, Dr, Universiti Tunku Abdul Rahman, Malaysia)**

Yong Haur obtained his B. Comp. Sc., M. Eng. (Elect) from Universiti Teknologi Malaysia, and PhD from Écolepolytechnique de l'université de Nantes, France. He is presently an Associate Professor in Faculty of Engineering and Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia. He is also the Chairperson for Center for Computing and Intelligent Systems (CCIS), UTAR. He has been actively involving in university-industry collaborations and consultancies, in applying machine learning, pattern recognition and computer vision techniques for various industries, including intelligent transportation systems. He has been serving as a technical consultant to various international and local companies.

**Katsushi IKEUCHI (Professor,Dr, Institute of Industrial Science, University of Tokyo, Japan)**

Dr. Katsushi Ikeuchi is a Professor at the University of Tokyo. He received a Ph.D. degree in Information Engineering from the University of Tokyo in 1978. After working at the Massachusetts Institute of Technology's AI Lab for two years, Electrotechnical Lab, Japan for five years, and Carnegie Mellon University for ten years, he joined the university in 1996. His research interest spans computer vision, robotics, and computer graphics. He has received several awards, including the IEEE R&A K-S Fu Memorial Best Transaction Paper award for the paper *Toward Automatic Robot Instruction from Perception*, and the 2010 most active distinguished lecturer of the IEEE RAS. He has been elected as a fellow of IEEE since 1998.

**Riza Atiq RAHMAT (Professor, Ir, Dr, Universiti Kebangsaan Malaysia, Malaysia)**

Prof. Ir. Dr Riza Atiq obtained his B.Eng. (Civil Engineering) in 1980, M.Eng (Transportation Engineering) in 1991 from UTM and PhD (ITS) from UKM in 2002. He started his academic carrier in UKM in 1994 after working as an engineer with City Hall of Kuala Lumpur for 14 years. While in City Hall he developed a transport model for Kuala Lumpur and surrounding area for planning purposes. He has five intellectual properties, three books, more than 100 scientific research papers and 14 innovation awards including one from Geneva, three from Korea and one from IEM. Besides ITS, his professional expertise includes bridge design, urban transport planning, urban transport management and sustainable urban transport. His current post in UKM is the Director of Center for Academic Advancement. While holding the post, he initiated the formulation of 11 policies to transform the curriculum and teaching-learning practices in UKM. His professional qualification includes being a professional engineer (Civil Engineers, Board of Engineers Malaysia) and member of Road Engineering Association of Asia and Australasia.

**Takashi OGUCHI (Professor,Dr, Institute of Industrial Science, University of Tokyo, Japan)**

Dr. Takashi Oguchi is a professor at Institute of Industrial Sciences, University of Tokyo, Japan. After receiving PhD from University of Tokyo, he joined to Nissan Motor Co. Ltd. for two and half years, and moved to Tokyo Metropolitan University in 1995. After developing his academic career for 15 and half years, he moved to University of Tokyo in 2011. His major research interests are highway traffic capacity, geometric design and driving behaviour, traffic management and control, and environmental impact study of traffic operation.

**Shinji TANAKA (Assistant Professor,Dr, Institute of Industrial Science, University of Tokyo, Japan)**

Dr. Shinji Tanaka is an Assistant Professor at Institute of Industrial Sciences, University of Tokyo, Japan since he received Doctoral degree of Engineering from The University of Tokyo in 2007. He was a Visiting Assistant Professor in Asian Institute of Technology, Thailand during 2008-2009. His research interests are traffic engineering, traffic simulation and traffic management.

**Sorawit NARUPITI (Associate Professor, Dr, Chulalongkorn University, Thailand)**

Dr. Sorawit Narupiti is an Associate Professor at Department of Civil Engineering, Chulalongkorn University. He specializes in transportation and traffic engineering especially Intelligent Transportation Systems (ITS). He has been conducting research and development on Intelligent Transportation Systems (ITS) for more than 15 years. He has numerous academic papers and made presentations on ITS topics at regional conference levels. He is currently a reviewer in some ITS-related journals/conferences and a coordinator of the ITS group at Chulalongkorn University. After the establishment of Thailand ITS Forum in 2005, he has served as the acting chair of the forum. He led the meeting and ITS activities in Thailand. The forum becomes ITS Thailand and he now serves as the President from 2008-present. He directs many administrative as well as ITS development activities.

**KHOO Hooi Ling (Assistant Professor, Dr, Engr, Universiti Tunku Abdul Rahman, Malaysia)**

Dr. Khoo Hooi Ling obtained her PhD from the National University of Singapore in 2008. She has the Master of Engineering Science and Bachelor of Civil Engineering from University Malaya in 2005 and 2002 respectively. She is currently an Assistant Professor in the Universiti Tunku Abdul Rahman. Her research interest is in traffic modeling and simulation, transportation network design, traffic safety and sustainable transportation. She has numerous publications in the international and regional journals. She is the Head of Department of Civil Engineering in UTAR since 2009.



Electric Train  
Keretapi Tanah Melayu (KTM)