

ICUS NEWSLETTER

International Center for Urban Safety Engineering



Institute of Industrial Science
The University of Tokyo

VOLUME 10 NUMBER 1
APRIL-JUNE 2010

EXPECTATIONS FOR ITS BASED ON TRAFFIC ACCIDENT ANALYSIS

By
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TRANSITION OF TRAFFIC ACCIDENTS

The number of fatalities due to traffic accidents has been decreasing since 1992. In 2009, there were only 4,914 fatalities, the lowest number in the last 50 years, and the number of accidents and injuries is also decreasing. This appears to be a desirable situation.

With these conditions, the government set a new goal to reduce the number of fatalities to less than 2,500 by 2018. The

new goal is ambitious and seems difficult to achieve by only conventional countermeasures. Some innovative counter-measures are needed to achieve this goal. Therefore, the expectations for ITS (Intelligent Transport Systems) as a promising new technology are high, as without ITS it may be difficult to achieve this new goal.

In this article, the potential for ITS to reduce traffic accidents is explained from several viewpoints and the need for ITS is introduced based on traffic accident analyses.

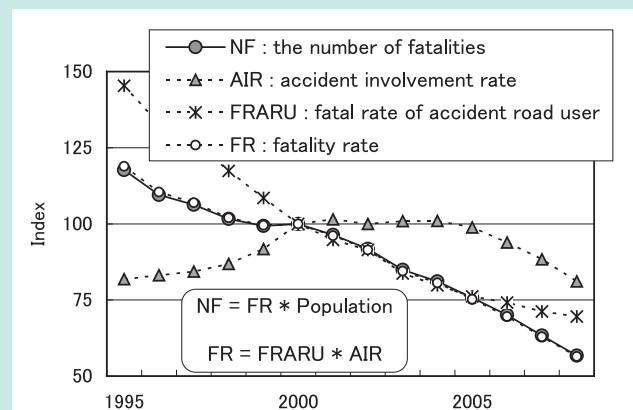
TO REDUCE THE NUMBER OF FATALITIES

There are two ways to reduce the number of fatalities: (1) to reduce the number of accidents or (2) to prevent an accident from becoming a fatal one. The former is called preventive safety measures, and the latter is called protective safety measures.

Before 2005, the reduction in fatal accidents was mainly due to the effectiveness of protective safety measures, but the effect of



*Scene of traffic accident survey
(source: Institute for Traffic Accident Research
and Data Analysis)*



Transition of traffic fatalities and related rates

preventive safety measures and less road usage became relatively large after 2005. Therefore, it is essential to improve preventive measures to achieve the above-mentioned goal considering the amount of possibilities. ITS is expected to greatly contribute for preventive measures.

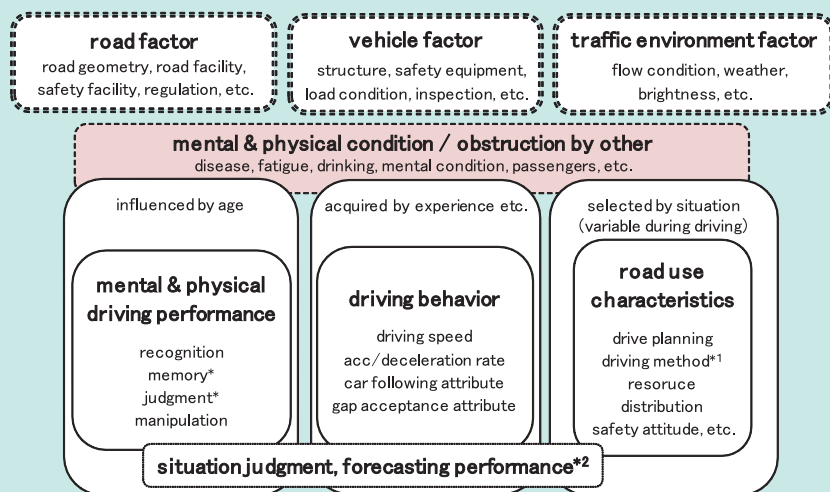
TRAFFIC ACCIDENT PREVENTION BY ITS TECHNOLOGY

From traffic accident analysis, various levels of human factors causing traffic accidents have been identified. A lot of researches and analyses show that people's ability of mental and physical performance for driving declines as they get older. A basic function of ITS is to make up for the decline in driving performance and many technologies have already been put into practical use. ITS also assists road users at the level of driving behavior and road use characteristics.

EFFECT OF PASSENGERS – FROM ASSISTANCE TO COOPERATION

Only considering ITS as an assistance system for declining driving performance may limit its full potential. The potential for ITS could expand by considering other ways to support drivers, as will be illustrated in the following example.

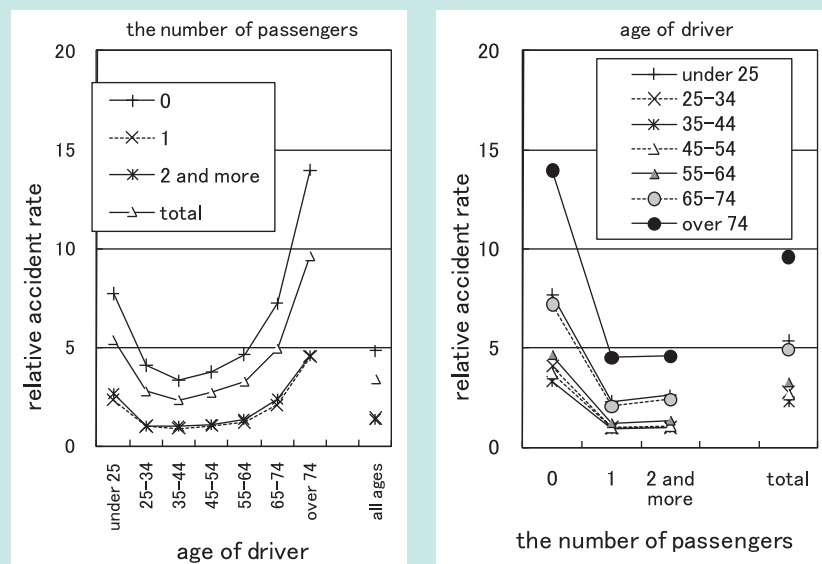
The accident rate per unit exposure to road traffic (estimated by the number of collisions from behind while standing) is estimated to become less than half in all age groups, including elderly people, when they have other passengers in their car compared to the case with no passengers. Similarly, the accident rate for drivers aged



*1: As driving behaviors acquired by experience have some variation to meet various conditions, road use characteristics are selected from them depending on the situation.

*2: Situation judgment and forecasting performance are classified into mental & physical performance and driving behavior depending on the level.

Human factors affecting traffic accident occurrence



Relative accident rate by age of driver and the number of passengers (2004-2006, belted male driver of passenger car for private purpose)

65 to 74 with passengers appears less than that of younger drivers without passengers. It can also be seen that the effect of passengers (a kind of assistance) is different by age of driver.

Just as research on artificial intelligence not only developed computer technologies but also revealed the nature of human mental characteristics, so too can research on ITS contribute to revealing the nature of driving performance, driving behavior and road user characteristics.

PREVENTIVE SAFETY MEASURES CONSIDERING INDIVIDUAL DRIVER CHARACTERISTICS

The accident rate per vehicle kilometer for elderly and young people is significantly higher than that of middle ages (30s – 50s). However, looking at the accident rate over one year, elderly people's value is not significantly high.

The probability of being involved in an accident in a

year depends on not only the driver's accident rate per vehicle kilometer but also how much he/she is exposed to road traffic. To evaluate this effect, the relative accident rate, which corresponds to the accident rate per vehicle kilometer, is calculated along with the number of collisions from behind while stationary as an index of exposure to road traffic. The result shows that as the number of accident experiences in the last 5 years increases, both the relative accident rate and the accident involvement rate increases. This means that drivers with accident experience may have both poor performance and high road usage.

Frequent drivers have reasons to drive, so it is not easy to reduce the driving frequency. Therefore ITS measures, which can provide the most effective safety support system corresponding to each individual driver, are expected to reduce the accident rate per unit exposure to road traffic.

Sweden aims to reduce fatalities by traffic accident to zero, but does not aim to completely reduce traffic accidents to zero. As long as the road transportation system involves people, it is impossible to completely eliminate human errors. Therefore, since we cannot completely prevent accidents from occurring, we need to focus on preventing fatalities from those accidents that do happen.

In the vision zero policy, it is described that pedestrians should not be killed in accidents when collision speed is less than 30 kilometers per hour. However, looking at pedestrian accident records in Japan, only 15% of pedestrian fatalities can be saved by this standard. That means that protective measures only are not enough to reduce pedestrian fatalities drastically, and preventive measures which prevent collision between vehicles and pedestrians are essential.

examples of specific accident analyses. However, ITS is expected to support not only accident prevention systems but also evaluation systems.

When we consider countermeasures to reduce traffic accidents, it is necessary to evaluate the risk of traffic accidents objectively. ITS, which can automatically collect exposure data to road traffic considering driver's attributes, could provide useful data towards this purpose.

Moreover, discussion on what ITS should be leads to discussion on what road traffic systems – which consist of people, vehicles and roads – should be. Achieving safety and efficiency through flexible systems which give drivers multiple options would make road traffic systems more human-friendly.

¹Director,

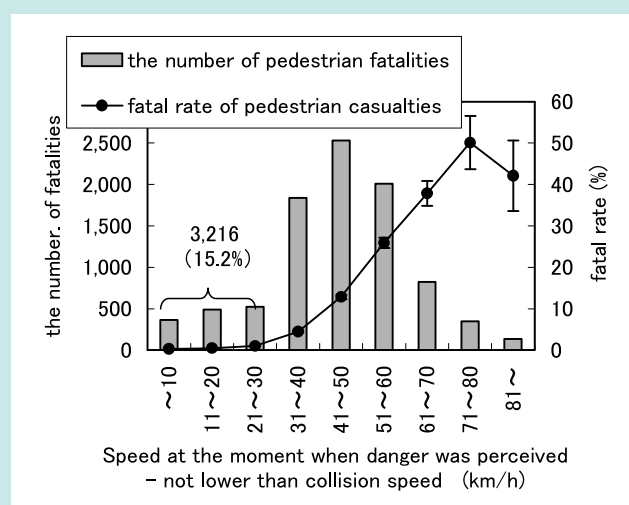
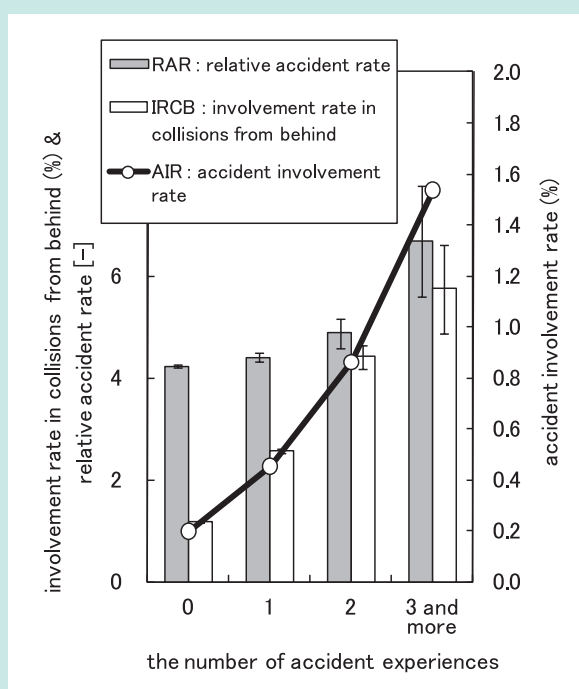
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FEASIBILITY OF VISION ZERO IN JAPAN

EXPECTATION FOR ITS

The “vision zero” policy in

Some key points to consider for countermeasures towards reducing traffic accidents were shown with



*Pedestrian fatalities and fatality rate
by vehicle speed (2001-2007)*

*Statistics for collisions from behind while stationary
by the number of accident experiences over the last 5 years*

Tsinghua Week at Todai – International Forum on Public Safety and Disaster Emergency Management

The University of Tokyo (Todai) and Tsinghua University have been jointly organizing Todai-Tsinghua Week for the purpose of deepening mutual exchange of research and activities. This program was first hosted by Tsinghua University in 2008, and the University of Tokyo hosted the second event, Tsinghua Week at Todai, on May 12 to 14, 2010.

ICUS and the Center for Public Safety Research (CPSR), Tsinghua University, organized the International Forum on Public Safety and Disaster Emergency Management on May 12 and 13 as part of Tsinghua Week at Todai. The forum included three parts: a keynote speech at the week's opening ceremony and International Forum for Doctoral Candidates on Public Safety on May 12 and the International Forum on Public Safety and Disaster Emergency Management on May 13.

Following the opening speeches by both universities' presidents, Prof. O. Hamada and Prof. B. Gu, two keynote speeches were provided. In the first keynote speech, Prof. W. Fan (Director of CPSR) presented "Emergency Management and

Public Safety Science and Technology in China," in which the framework, methodology, application, and recent progress were introduced. Following that, Prof. K. Meguro (Director of ICUS) presented his keynote speech "Integrated Information System for Total Disaster Management," in which a new-generation disaster manual based on user, time and purposes was introduced.

In the International Forum for Doctoral Candidates on Public Safety, eighteen doctoral students presented their studies covering a wide range of issues in the areas of urban safety, including emergency management for urban disasters, advanced technologies for monitoring and management of urban safety, risk assessment, prediction, early-warning of urban disasters, and so on. Many interesting and fruitful discussions were held during this time.

In the International Forum on Public Safety and Disaster Management, Prof. T. Yashiro (Director General of the Institute of Industrial Science, the University of Tokyo), Prof. Fan, and Prof. Meguro provided the opening speeches.

The forum then began with Prof. H. Zhang, who introduced the emergency management system and standardization in China, followed by Prof. A. Tanaka's presentation about information management for efficient emergency disaster response. Next, Prof. Q. Zhang presented energy and environmental safety issues within the context of global change. The relationship between climate change and hydrological disaster were presented by Prof. M. Kimoto, then Prof. Meguro delivered a lecture about disaster simulation tools. Risk analysis integrating uncertainties was presented by Prof. Y. Liu, and topics on urban planning for earthquake disaster mitigation and studies on urban safety problems using multi-scale and multi-physics models were introduced by Prof. T. Kato and Prof. H. Huang, respectively. Finally, in the last session, Prof. S. Kato gave a lecture about countermeasures for air-infectious disease and bioterrorism and Prof. H. Zhang made a speech on the methodology for integrated risk assessment of multi-hazard events.

This event provided an opportunity to share the latest technologies and information and discuss possible means for joint research with the overall purpose of raising the level of public safety-related science and technology in both countries.

*(by H. Huang, CPSR,
Tsinghua University)*



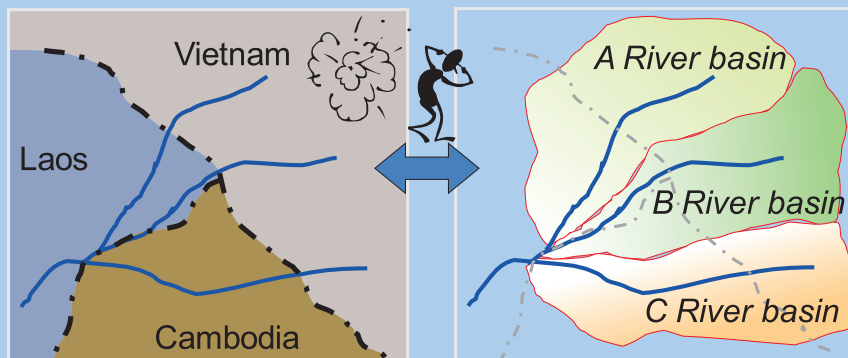
Group photo of forum participants

Exploring environmental change adaptation covering disaster management aspects using watershed as a unit

My name is Akiyuki Kawasaki, and I joined ICUS from this April as a project researcher. I'm also acting as coordinator for the Regional Network Office for Urban Safety (RNUS), as well as visiting faculty of the Water Engineering Management field at the School of Engineering and Technology, Asian Institute of Technology, Thailand.

After getting my doctoral degree and working at Yokohama National University, I conducted research at United Nations University, Harvard University, and at the Institute of Industrial Science, the University of Tokyo. I have over 13 years of experience utilizing GIS (Geographic Information Systems) for multidisciplinary environmental research while developing systematic approaches for integrating a wide range of data models, data formats, and research methodologies into a common GIS computing environment. Using GIS as the main tool, I have been conducting research on both disaster management such as landslide and earthquake response, and environmental management such as an integrated approach to evaluate the potential impact of precipitation and land-use change on stream flow.

By combining my career and ICUS's and RNUS's splendid research resources and networks, I would like to explore comprehensive environmental research which involves disaster management – for example, waster resources management as a strategy for disaster risk reduction.



Political boundary (national border) approach vs. natural boundary (watershed/basin) approach

Let me introduce my current study in the Mekong River Basin, the longest international river in Asia. The concept of water security is becoming more common because many of the large river basins of the world are shared among several nations. Developing a scientific framework for cross-boundary water resources adaptation is urgently required as water becomes scarcer, and thus conflicts over water more common, due to economic development, population growth and climate change. To contribute to solving this issue, I'm investigating how water and its benefits can be fairly shared among riparian countries using the Mekong River Basin as a study area.

Conventionally, river basin policy is divided by “man-made” boundaries such as national and provincial borders. However, “natural boundaries” such as watersheds, the area of land in which all of the water which is under it or drains off of it goes into the same place, is considered as a promising way for promoting better environmental management. Therefore, I'm

examining the utility of the two approaches – a “watershed” approach and a “political unit” (national boundary) approach – for water resources adaptation in cross-boundary river basins by comparing a range of climate adaptation strategies for cooperation among the riparian nations. GIS is among the best tools for analyzing this kind of regional issue.

Although environmental aspects such as climate change and socio-economic factors such as population increase have been considered, disaster management aspects such as food risk reduction should also be incorporated, thus supporting decision making on global change adaptation strategy. This is an across-the-board, complex and challenging theme, but I would like to address this issue by collaborating with ICUS researchers and beyond using GIS as a multidisciplinary collaboration tool among fields. I always appreciate suggestions and support towards my research.

(by A. Kawasaki)

Development of IT triage system



Slightly-injured patients after the first and the second triage (left) and system utilizing FeliCa reader (right)

Prof. K. Meguro, Prof. M. Ohara, and Dr. M. Numada have developed an IT triage system for collecting disaster medical information in real time. FeliCa cards and card readers are used to obtain the number and condition of patients.

The system is composed of two elements. First, the number of

patients for each triage level and the accepted number of patients in each diagnosis and treatment department are obtained in real time, including response for changing triage level. Second, this information can be shared among hospitals, the administration, and residents in real time who are searching for their family.

A disaster drill utilizing this system was held at the University of Yamanashi Hospital with 450 participants from 9:30 on May 22nd, 2010. During this drill, the system displayed the number of patients in real time according to triage level, the number of consultation patients of each diagnosis and treatment department, and easily showed the change in triage level.

This system can upgrade the current triage and also support sharing of this information across an entire region, including other hospitals, administrators, and residents, to facilitate quick transfer of patients and support response to patients' families.

(by M. Numada)

Project on Amazonian Carbon Dynamics (Part II)

Following our first article in the ICUS Newsletter Vol. 9, No. 3 on the "CARbon Dynamics of Amazonian Forests" (CADAF) project, we can announce that the project has officially begun from the end of May 2010. From May 19th to June 2nd, Prof. H. Sawada, Dr. T. Endo, and Mr. Y. Sawada (project researcher) visited São Paulo and Manaus in Brazil to meet the Forestry and Forest Products Research Institute (FFPRI) and Japan International Cooperation Agency (JICA), Japan, and the Instituto Nacional de Pesquisas da Amazônia (INPA) and the National Institute for Space Research (INPE), Brazil. In this project, we will survey the Amazonian forest using an airborne fullwaveform LiDAR instrument to evaluate forest inventory such as terrain under the trees, dominant tree height and geographical position. The fullwaveform LiDAR

instrument is the latest LiDAR sensor and can receive the returned laser pulses from objects as a continuous signal. We believe this instrument will work well in the Amazonian forest.

During our stay in São Paulo, we discussed how to measure the Amazonian forest using the LiDAR instrument with the local survey company, and established plans to begin the first LiDAR measurement in September.

After that, Dr. Endo and Mr.

Sawada moved to Manaus to confirm the measurement methods for terrain and tree height using the laser distance meter and trained the local staff in the measurement protocol.

We will visit Manaus again this September to evaluate the preliminary results derived from the LiDAR data, and will introduce and discuss some of the highlights of the project in part III of this article.

(by T. Endo)



Airplane used for LiDAR measurement

Joint research on PP-band technology in China

Prof. K. Meguro (Director, ICUS) Dr. M. Numada (Research Associate, ICUS), and Mr. F. Ito (Senior Researcher, Infrastructure Development Institute, Japan) visited China from April 14th to 23rd, 2010, for joint research on the application of PP-band method to masonry structures in China.

We first exchanged views on how to use the PP-band technology locally in China with the China Development Research Foundation and China Earthquake Administration, then conducted a site survey on masonry houses in the suburban area of Lhasa City (altitude: roughly 4,700 meters). Finally, we gave a lecture and demonstrated the installation of PP-band method to Chinese engineers using 1/3-scale models.

The PP-band retrofitting method was conceived and developed

so that it can be implemented even by low-income people in developing countries using strong and durable but very cheap polypropylene bands as a new, simple, and efficient seismic retrofitting technique. Mesh made of PP-bands, as a seismic reinforcement material, can be easily and inexpensively fabricated at the site with locally-available materials.

During the discussion with the China Development Research Foundation and China Earthquake Administration, the research background and purpose of the PP-band technology was explained by Prof. Meguro, including experimental results carried out in Japan. Afterwards, there were questions about applicability to Chinese structures, and the discussion became a positive skills

session.

In the site survey of Lhasa City, characteristics such as strong ultraviolet rays, large temperature fluctuations, and strong wind exposure were all identified. The house roofs in this region are therefore heavy with wood and clay layers and are neither connected nor fixed to the walls. This may contribute to collapse during an earthquake.

Eleven Chinese engineers from Lhasa City came to the China Earthquake Administration in Harbin City to participate in practicing the PP-band retrofitting method. The necessary supplies and tools, such as PP-band, welding machine for making PP-band mesh, drills for creating holes in the walls of existing houses, and so forth were prepared locally. The practice itself consisted of making PP-band mesh, wrapping, and installing the mesh to the masonry model under the guidance of the Japanese members. During this collaborative activity, the effects of PP-band technology, practical points for its installation at the actual site, and more were covered, with particularly positive discussion on the method for fixing the roof and the PP-band mesh due to the high importance of roof fixation for earthquake resistance.

The Yushu Earthquake in China occurred on April 14th, just after we arrived in China. More than 90% of the buildings in the affected area were heavily damaged, and the number of victims reached as high as 2,000 people. The importance of this joint research can be recognized in light of this devastating disaster.



Discussion on PP-band technology



Demonstration of PP-band technology in Harbin City



Site survey in Lhasa City

(by M. Numada)

Institute of Industrial Science Open House 2010



A busy day at ICUS during the IIS Open House 2010

The Institute of Industrial Science (IIS) organized and held the IIS Open House on June 3rd, 4th, and 5th. This event provides an opportunity for people of all ages and professions to explore the IIS campus and learn about the research activities being conducted at IIS, the University of Tokyo. ICUS has been participating in the Open House since its inception in 2001, taking the opportunity to educate people about ICUS activities on the different aspects of

urban safety issues.

This year, over 300 people visited ICUS, with nearly 200 of them participating in the ICUS quiz and receiving ICUS goods such as towels, key chains, and more. Research works on display included disaster simulation and education, seismic retrofitting and evaluation, remote sensing and geospatial technologies, maintenance and deterioration of infrastructure, traffic engineering and urban planning, with increasing consideration of environmental disaster such as climate change. BNUS and RNUS activities over the past year were also summarized.

(by M. Henry)

18th ICUS Open Lecture held at IIS

The 18th ICUS Open Lecture was jointly organized with the Advanced Mobility Research Center (ITS Center) and held at IIS on April 27th, 2010, with approximately 110 participants. Four lectures were given on the theme “Traffic Safety and ITS,” focusing on how traffic safety can be improved and how ITS (Intelligent Transport Systems) can contribute towards such

improvement.

Prof. M. Kuwahara (ITS center, IIS, and Tohoku University) introduced ITS Center’s research activities regarding traffic safety. Mr. Y. Nishida of the National Research Institute of Police Science discussed the expectations for ITS based on traffic accident analysis. Prof. H. Akahane of the Chiba Institute of Technology presented how ITS can be used to

enhance people’s awareness of traffic safety, followed by Mr. K. Yamada of Nissan Motor Co., Ltd., who presented state-of-the-art technologies to prevent traffic accidents. Finally, after these presentations, a panel discussion was held and the potential for ITS to enhance traffic safety was explored.

(by S. Tanaka)



Prof. M. Kuwahara



Mr. Y. Nishida



Prof. H. Akahane



Mr. K. Yamada

BNUS coverage of urban disasters in Dhaka, Bangladesh

Over the last three months there have been several urban disasters in Bangladesh. The first was the collapse of a five-story building in Dhaka's Begunbari area on June 2nd, which killed at least 25 people, including 11 women and children. Originally, the owner had permission to construct a three story structure, but it was later changed to five stories. Rescue work was difficult due to narrow access routes, gas leaks, and damaged electricity lines. Most residents of the collapsed structure escaped harm whereas people living in the surrounding tin houses were trapped under the rubble. Similar incidents have occurred before in Dhaka, particularly in older areas, so the developmental authority is taking measures to inventory buildings with vulnerable foundations and structures and buildings without proper authorization and arrange their demolition or reinforcement.

On June 3rd, a large fire broke



Aftermath of building collapse

out in the densely-populated Nimtoli area in Dhaka. At least 117 people were killed and hundreds injured. Investigations found that the fire originated at an oil stove and spread to nearby chemical warehouses. Such factories for chemicals, plastics, rubber, etc. are commonly located on the lower levels of residential buildings. In addition, houses in Dhaka are not equipped with fire-fighting equipment such as extinguishers, hose pipes, and so forth, nor do they have sufficient space for emergency exits in the stairwells. This incident greatly



Five buildings burning in Nimtoli in Old Dhaka

exposes the vulnerability to fire in densely-populated areas due to unplanned urbanization, narrow roadways, and lack of awareness. Proper land-use patterns need to be established following development plans and strict building enforcement in order to prevent such events from occurring in the future. Currently, BNUS is conducting a field survey to evaluate current fire-fighting systems and develop an evacuation plan for residents of Dhaka.

(by M.A. Ansary, BNUS)

Commendation for Science and Technology to Prof. Meguro

Prof. Kimiro Meguro, Director of ICUS, and Dr. Fumiaki Uehan, Railway Technical Research Institute, received the

Commendation for Science and Technology from the Minister of Education, Culture, Sports, Science, and Technology, Prizes

for Science and Technology, Development category, 2010. Their award-winning research was on the development of a method to remotely measure microtremors for vibration diagnosis of railway structural systems using Laser Doppler Velocimeter (LDV) which can accurately estimate the dynamic characteristics of an existing reinforced-concrete rigid-frame structure. We congratulate Prof. Meguro on this prestigious award.



Prof. Meguro and Dr. Uehan after receiving their award

(by H. Sawada)

RNUS seminar on fiber reinforced concrete



Seminar participants

On June 30th, RNUS (Regional Network Office for Urban Safety) organized a seminar on “Fiber Reinforced Cement Composites (FRCC) and Concrete (FRC)” at Milton Bender Auditorium, Asian Institute of Technology (AIT), Thailand.

Two speakers delivered presentations. First, Dr. Praveen

Chompreda, Program Director of the Department of Civil Engineering, Mahidol University, gave a lecture on “Strength and shrinkage properties of fiber reinforced cement composite.” Following that, Dr. Withit Pansuk, Lecturer in the Department of Civil Engineering, Chulalongkorn University, delivered a presenta-

tion on “Shear capacity of ultra high strength fiber reinforced concrete beams.”

About 25 participants joined the seminar, including undergraduate and graduate students from the structural engineering field at AIT and the Department of Civil Engineering and Technology at Sirindhorn International Institute of Technology (SIIT), Thammasat University, as well as researchers from ready-mixed concrete companies. There were many fruitful discussions regarding the challenges and future of FRCC and FRC, and the seminar was considered successful.

(by A. Kodaka)

Seminar with Nanyang Technological University at ICUS

On April 26th, 2010, a delegation of five representatives from Nanyang Technological University (NTU), Singapore, visited ICUS and IIS. The delegation, led by Prof. T.C. Pan, attended a seminar at ICUS on topics related to disaster and disaster management.

During the morning, Prof. T. Oki, a former member of ICUS, introduced research works related to hydrological processes, modeling,

and flooding. After lunch, both ICUS and NTU members visited Prof. T. Yashiro, Director General of IIS, for the renewal of a joint research protocol between the College of Engineering, NTU, and IIS. In the afternoon, Prof. K. Meguro and Prof. H. Sawada presented ICUS research works covering remote sensing technologies and GIS for urban disaster mitigation, integrated seismic and tsunami

hazard assessment, evacuation simulation, earthquake loss modeling, vulnerability and strengthening, and more.

From this exchange of knowledge, it is hoped that ICUS can support disaster mitigation and management in Singapore and Asia through cooperation and collaboration with colleagues at NTU.

(by M. Henry)



Discussion between NTU delegation and ICUS members

ICUS Activities

- Prof. K. Meguro and Dr. M. Numada traveled to Lhasa and Harbin cities in China from April 14th to 23rd for site survey and teaching of the PP-band retrofitting method.
- Prof. H. Sawada and Dr. T. Endo visited Brazil from May 19th to May 26th to oversee the start of the project on carbon dynamics of the Amazonian forest. Dr. Endo remained in Brazil until June 2nd to conduct equipment training.
- Prof. R. Kuwano attended the 7th International Symposium on Physical Modeling in Geotechnics in Zurich, Switzerland, from June 26th to July 3rd.
- Dr. A. Kawasaki traveled to AIT in Bangkok, Thailand, from May 16th to 23rd for overseeing RNUS activities.

Awards

- Prof. R. Kuwano received the Best Paper Award from the Japanese Geotechnical Society for her paper entitled “Aging effects on small strain shear moduli and liquefaction properties of in-situ frozen and reconstituted sandy soils.”

New ICUS members



Prof. T. Kato



Dr. A. Kawasaki



Dr. S. Kondo



Dr. M. Henry

ICUS would like to welcome four new additions to our center as of April 1st, 2010. Associate Professor Takaaki Kato joined the Urban Safety and Disaster Mitigation Division, and Dr. Akiyuki Kawasaki, Dr. Shinya Kondo, and Dr. Michael Henry joined as ICUS project staff.

Prof. T. Kato moved to ICUS from the Department of Urban Engineering. His research field is “urban planning and engineering for social safety systems,” focusing on the safety of cities and regions considering spatial structure and composition of urban areas and utilizing social and technical systems.

Dr. A. Kawasaki joined ICUS after serving as a JSPS research

fellow in Meguro Laboratory. He received his Doctor of Engineering from Yokohama National University, and has also conducted research at United Nations University and Harvard University. He is highly experienced in utilizing GIS for multi-disciplinary research covering both disaster and environmental management.

Dr. S. Kondo came to ICUS from the Disaster Reduction and Human Renovation Institute in Kobe, Japan, where he was a research scientist. He earned his Ph.D. in Meguro Laboratory in ICUS while researching a new-style disaster management manual. His research topics also include disaster information management and support programs

for areas isolated after disasters.

Dr. M. Henry entered ICUS after graduating from Kato Yoshitaka Laboratory in ICUS. His Ph.D. research proposed a framework for developing and assessing sustainable concrete materials considering social perspectives. During that study, he focused on the Japanese concrete industry, but will continue his research by extending the scope to include other Asian countries.

Please see either this volume or the next volume of the ICUS Newsletter for more detailed information about the new members’ research topics.

(by K. Meguro)

Editor's Note

During the period of this issue, the FIFA World Cup was held in South Africa, and a lot of people spent many sleepless nights cheering for their favorite teams. Japan got through the group stage and proceeded to the elimination round, which was a very exciting event for Japanese people – particularly because there had been very little expectation before the games began. From this, we could learn a couple of things.

One is of course that believing in one's own way regardless of others' evaluation is important. Another is that people's attitudes and behaviors may change very easily depending on the situation.

In the main article, Mr. Nishida showed the importance of considering human factors leading to traffic accidents based on analyses from practice. The panelists, including Mr. Nishida, in the ICUS Open lecture held in April also discussed the possibility of ITS to prevent

accidents, but it is subject to how people use ITS. As our society is an aggregation of people's activities, we always have to keep in mind that any technologies or countermeasures to improve urban safety must be developed considering the existence of people – that is, how people are involved in the system, how they think of it, and how they use it.

(by S. Tanaka)

Announcement of Joint Symposium on Geospatial Technologies and 4th IIS Alumni Party

We would like to announce that RNUS (Regional Network for Urban Safety) will organize the 4th IIS Alumni Party in downtown Bangkok on Saturday, November 27th, following a joint symposium on the "Forefront and challenges of geospatial technologies for environmental and disaster management in Southeast Asia". IIS alumni includes not only graduates but also those who had any relationship with IIS (as staff, post-doc, etc). Alumni from the Department of Civil Engineering, RCAST, Hongo campus and other Todai alumni are also warmly welcomed. Some IIS professors will join it and the party is free of charge. For more detail, please check the RNUS website.

<<http://www.set.ait.ac.th/rnus/rnusnew/>>.

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