ICUS NEWSLETTER

International Center for Urban Safety Engineering



Institute of Industrial Science The University of Tokyo

Special Issue APRIL 2011

CLOSING THE "OLD" ICUS AND MOVING TOWARDS THE "NEW" ICUS

By Kimiro Meguro¹

International The Center for Urban Safety Engineering (ICUS), Institute of Industrial Science (IIS), the University of Tokyo, was established in April 2001 as a research organization with the objective of carrying out advanced researches on urban safety engineering including development and maintenance of urban infrastructure from global aspects. ICUS is a successor to the

International Center for Disaster ICUS. Mitigation Engineering (INCEDE; April 1991 to March 2001) and edition to both close the "old" expanded INCEDE's research area.

Fiscal year 2010 was the tenth year of ICUS, and March 2011 marked the end of the "old" ICUS. However, IIS, the University of Tokyo, approved a 5-year funding extension, and thus April 2011 marks the start of the "new"

This newsletter is thus a special ICUS, by reviewing ICUS's achievements and activities over the last ten years, and to move towards the "new" ICUS, by introducing our vision and plans for the next five years. We were also fortunate enough to receive many kind words and well-wishes from ICUS's long-time collaborators



ICUS members for fiscal year 2010

and friends, which we would also like to share in this special edition.

CLOSING THE "OLD" ICUS

Since its establishment in 2001, ICUS has been carrying out many activities for its core objectives of advanced researches, network formation, and information collection and dissemination.

Advanced researches have in been carried out three research divisions: "Sustainable Engineering," "Urban Safety and Disaster Mitigation," and "Infrastructure Information Dynamics." The Sustainable Engineering Division has been carrying out research targeted at evaluating the structural safety of aging social infrastructure facilities from the material to structural levels and developing maintenance and management technologies. The Urban Safety and Disaster Mitigation Division has contributed extensively to society by taking multi-disciplinary approach а bridging different specialties, and can be seen in works such as site investigation of natural disasters and accidents. simulation of disasters and their impacts due to flood and/or earthquakes, disaster prevention training systems and manuals, and the development of seismic capacity evaluation and retrofitting technologies and their implementation. Finally, the Infrastructure Informatics Division has been involved with automatic processing of satellite data in southeast Asia and other research such as environmental monitoring using satellite data, research on traffic management during disasters, numerical fluid dynamics for heat island phenomena, and the spread of urban fires during windy

conditions.

ICUS has not only strived to implement the research activities above but also to ensure that advanced research and technology are transferred, together with expertise and experience for effective application, especially to developing nations.

also been ICUS has very active in building networks with external organizations, international including academic organizations. This can be illustrated by the many of Understanding Memoranda (MOU) with universities and research organizations across the Asia Pacific Region. ICUS also established regional offices in Bangkok, Thailand (Regional Network for Urban Safety. RNUS) and Dhaka, Bangladesh (Bangladesh Network for Urban Safety, BNUS) to further activities in these areas. ICUS has also actively organized many domestic research committees for building industry-academic collaboration.

Information is collected and

acquired by wide-ranging research and development activities in both Japan and overseas. The ICUS Newsletter, distributed four times a year, the "International Symposium on New Technologies for Urban Safety of Mega Cities in Asia," an annual symposium, and numerous ICUS Reports demonstrate ICUS's efforts towards the communication and dissemination of research works and technologies.

In summary, the overall evaluation of ICUS over the last ten years is high and the external evaluation committee concluded that ICUS has achieved extremely good results.

INTRODUCING THE "NEW" ICUS

Considering the past activities and the present societal conditions, ICUS plans to update and continue its activities for the next five years. The purpose of this "new" ICUS is to identify, investigate, and resolve issues so as to enable proper urban infrastructure to be realized and



Research areas of the "new" ICUS

sustained in such a way that the inhabitants can live prosperously and safely. Typical features of current Japanese society include a declining birthrate, aging society, shrinking budget. advanced environmental technology, awareness, impacted by global decentralized warming, and compact human settlement, and so forth. At the same time, since these problems will be experienced by developed and/or developing nations around the world, as one of the first to experience these problems, Japan is expected by the international community to play an active role in this regard.

The "new" ICUS will continue to have three research divisions focusing on three research fields. These fields derive from the idea that urban safety environment can be implemented by mainly the integrated safety of disaster, environment, and infrastructure.

The "Urban Safety and Disaster Mitigation" division aims to extract and resolve issues so as to realize and sustain a safer and more comfortable urban built environment for people against various kinds of hazards that affect cities, such as huge earthquakes or urban floods due to torrential rains, in a society characterized

by the above-mentioned societal "Environment conditions. The Informatics" division aims to reduce the effects of various kinds of wideranging hazards especially where frequent abnormal weather is being observed. This is done to realize a home land environment in which people can coexist while enjoying a comfortable natural environment, and to extract and resolve issues for sustaining such a lifestyle in a society characterized by the abovementioned societal conditions. Finally, the "Social Infrastructure Management" division aims to extract and resolve issues from the dangers that precede maturation of social infrastructure facilities so as to maintain and preserve the existing lifestyle of people while considering the imbalances typified by large maintenance management expenses and public investments, huge volume of social infrastructure facilities and small number of engineers.

Furthermore, the "new" ICUS will strive to develop new research fields which bridge the existing three divisions. These new research fields include studies on environmentally-friendly disaster management systems, analysis of the market for and development of recycled construction materials with reduced environmental impacts, and the effective management and operation of infrastructure for disaster mitigation,

MOVING FORWARD

Now we are looking forward to a new era of ICUS, with new goals and horizons. To move towards this future, we would like to sincerely ask for the help and support of all those people who have worked with and supported us over the past ten years. It is thanks to you that we have been able to come this far and make so much progress towards improving urban safety, but there is still much work to be done. The rest of this newsletter contains some of the kind words. comments, and thoughts on ICUS's past and how ICUS should move ahead from different members of the ICUS network. We hope that we can live up to the great expectations and continue to cooperate not only with our current friends and collaborators. but also to make new friends and build new collaborations towards the establishment of safer, more comfortable, and sustainable urban systems.

¹Director, Professor, ICUS



Group photo of some ICUS students and staff

Comments and thoughts regarding ICUS's past and future from ICUS network members

Dr. Worsak Kanok-Nukulchai Vice President for Resource Development, *professer* Asian Institute of Technology Bangkok, Thailand



CONGRATULATIONS TO ICUS ON ITS 10 YEARS OF SERVICE

On behalf of the Asian Institute of Technology (AIT), I would like to proudly congratulate the International Center for Urban Safety Engineering (ICUS) for having graciously completed its first decade of operation. As a partner, AIT has enjoyed a long-term relationship with ICUS by jointly operating the Regional Network Office for Urban Safety (RNUS) at our School of Engineering and Technology (SET) since 2002. After 9 years, RNUS, I believe, has fulfilled its original objectives. Most of all, it has served as a focal point for ICUS to share urban safety experiences and technologies with other Asian countries through collaborative research in a wide range of areas, including disaster mitigation, infrastructure maintenance and new technology for urban safety.

I am most delighted to learn that the University of Tokyo has approved a 5-year funding extension for a "new" ICUS starting from April 2011. As ICUS has become a teenager after a decade of operation, change is very important for its growing role and new responsibilities. I am very confident that the new ICUS, under the great leadership of Professor Kimiro Meguro, will be able to identify, investigate, and resolve issues that will enable urban inhabitants to live prosperously and safely. And this does not only applies to Japan, but also in other countries through generous sharing of ICUS's experiences and tools. Recently we can all observe that the world is faced with so many challenges, such as direct and indirect impacts of global warming, deteriorated urban environment and the increasing natural disasters. With our readiness to shoulder some responsibility, AIT really looks forward to working closely with ICUS and its other partners.

Dr. Fan Weicheng Director, professer Institute of Public Safety Research Tsinghua University Beijing, China



I have known the activities of ICUS since 2003. In the USMCA2003 of that year, I was honored to be invited as a keynote speaker to introduce the fire research in China. Many exchanges have been conducted between ICUS and IPSR (Institute of Public Safety Research, changed in Dec. 2010 from the Center for Public Safety Research) since that time.

ICUS has highly achieved its objectives over the past 10 years due to its comprehensive advanced researches, symposiums and workshops, international cooperation and active information dissemination. ICUS contributes great achievements on the researches and activities covering natural disasters and manmade disasters. ICUS popularizes their advanced research and knowledge and contributes great passion and enthusiasm to establish a successful network of researchers, practicing engineers, emergency managers, and decision makers in urban safety. We benefited greatly by the ICUS efforts and activities.

It is known that urban safety problems are becoming more complex and varied. Explaining and solving these problems requires a multidisciplinary approach across a number of academic fields – not just the natural sciences and engineering, but also the management, humanities, and social sciences. ICUS can make great contributions to those diverse urban safety problems.

I strongly hope ICUS will continue its success in the future. IPSR will be a good and close supporter and partner for the future ICUS activities.

Finally, I would like to give my great condolences for the deaths in the March 11 earthquake and I believe that you will overcome the disasters. **Dr. Tomonari Yashiro** Director General and Professor, Institute of Industrial Science The University of Tokyo Tokyo, Japan



The International Center for Urban Safety Engineering (ICUS) was established in 2001 and has made remarkable achievements over the last decade. As Director General of the Institute of Industrial Science (IIS), the University of Tokyo, I would like to express my sincere appreciation to all those who have contributed to ICUS's activities.

IIS has the internal regulation that all research centers like ICUS have limited duration. If a center wishes to continue part or most of its activities, the core academics are requested to submit the new work items and organization proposal together with a evaluation report on previous activities by external reviewers. Through the tough evaluation of the new proposal, the IIS community agreed to establish a "new" organization to enhance urban safety and international collaboration relating to disaster prevention and mitigation.

As the majority of academics agree, the islands of Japan have entered a period of high seismic activity. The recent East Japan Earthquake taught us how interrelated factors could amplify complicated and catastrophic phenomena if a certain magnitude of earthquake strikes densely populated areas. Some phenomena could be predicted and therefore prepared for to some extent. However some phenomena are beyond previous prediction. The earthquake presented how and what we did not know. This recognition is the starting point of the development of brand new knowledge. Contrarily, intolerant attitude like being proud, saying we know everything, or ignoring significant scientific evidence presented by academics could bring about enormous disasters beyond the ability of contemporary civilization to manage. The great lesson of the East Japan Earthquake is that we should be humble in our way of thinking based on the recognition that we do not know everything. Thus, we should be open-minded to enable an interdisciplinary and holistic approach to create effective knowledge for disaster prevention/mitigation.

The recent giant earthquake has depressed us. However, we also recognize the significance of the mission of "new" ICUS as catalyst, facilitator and integrator of open-minded, interdisciplinary, holistic approaches with a wide range of and enormous varieties of academics from all over the world. It is very much appreciated if you would continue or join the collaboration with "new" ICUS.



Dr. Tso-Chien Pan Founding Director, Institute of Catastrophic Risk Management Director, Protective Technology Research Centre Nanyang Technological University, Singapore

Natural catastrophes resulting from major earthquakes, typhoons or floods have always been a challenge to the sustainable development of urbanized regions as well as the security and safety of human societies. The evolving nature of catastrophe risk management for megacities has been one of the reasons which prompted the establishment of the International Center for Urban Safety Engineering (ICUS) ten years ago. It is clear that the Protective Technology Research Centre (PTRC) at the Nanyang Technological University (NTU) in Singapore shares similar goals as ICUS in creating a safer urban environment especially for megacities in Asia. Therefore it is a mutually beneficial arrangement that the MoU between ICUS and PTRC has been renewed for another five years since March 2010. We are not only able to work together to achieve a common objective in the areas of research and education, but also to share our knowledge through outreach activities such as the International Symposium in 2005). NTU has recently set up an interdisciplinary Institute of Catastrophe Risk Management (ICRM). We certainly look forward to more collaboration between NTU's PTRC & ICRM and ICUS in the coming five years! Congratulations to Professor Meguro for his leadership of ICUS!



Dr. Taketo Uomoto Chief Executive, Public Works Research Institute Japan

ICUS or International Center for Urban Safety Engineering has been working as a leading center in the field of urban safety engineering for more than ten years. The results of the works are highly evaluated by both the researchers of the world and the public. I can say that ICUS is now one of the most important research centers in the world, proposing many valuable findings and leading the world related to safety aspects of urban area especially in Asian countries. A new five years term has started with new members from this April, and I would like to send our best wishes to all the members of ICUS with Prof. T. Meguro as the director. This March 11, Japan has suffered tremendous damage from "East Japan Great Earthquake" and the "Tsunami" caused by the earthquake. The disaster is not settled yet due to nuclear problems of Fukushima Nuclear Power Plant. This disaster is too large for ICUS alone to deal with, but I hope ICUS and the supporting organizations start to overcome the disaster by proposing practical measures from the academic side using the technologies which they have already developed. I my self is now working as chief executive of PWRI how to recover Japan not only to save the suffered people but also to draw a plan and reconstruct our country safe enough for all the people living in Japan. I look forward to start the research works in collaboration with ICUS and other organizations. I hope the success of ICUS in this field for the new term.

> **Dr. Kiang Hwee Tan** Professor, Department of Civil & Environmental Engineering National University of Singapore Singapore



The aftermath of the Great East Japan Earthquake that occurred on March 11, 2010 speaks volumes of the importance of disaster mitigation and post-earthquake management. It was the greatest jolt that most people in Tokyo have ever experienced in their life.

I happened to be in Tokyo on that fateful day. Communication lines were down, and so were the train services. Taxi queues were extraordinarily long, and I had to walk for three hours to get back to my hotel, just like many thousands of people had to in order to return home. Along the way, restaurants were full and even a 24-hour shop was sold out. These were trivial matters when compared with what was happening due to the earthquake and the subsequent tsunami in Tohoku near the epicenter. But what impressed me most in my encounter was the orderliness of the people and the way they helped each other out. It would probably be beyond imagination if the same earthquake was to hit an urban city like Tokyo directly. Though such a day is dreaded, and the people in Tokyo may be prepared for such an event, this may not be so for other urban cities which have yet to witness a major earthquake. From providing a good knowledge of what earthquakes, tsunamis and other natural hazards are and what they might cause, to the construction and maintenance of infrastructure that would ensure minimal disruption to the social and economic activities of the society, we as engineers and scientists have a big role to perform. In this respect, the International Center for Urban Safety Engineering (ICUS) has certainly lived up to its name and objectives. Its annual symposium has attracted high-quality presentations on policies and technologies related to hazard mitigation and management. The Center has also set up regional network offices in various countries, through which the locals have benefited from its training programs. Its idea of using polypropylene bands in preventing masonry buildings from collapse during an earthquake is highly notable, and the Center's effort in imparting this economical technology to developing countries is highly commendable.

Many lessons could be learned from the Great East Japan Earthquake, and I look forward to the Center playing an even more important role, as a leader in ensuring the safety of urban cities not only in Japan, but also in the rest of the world.

Dr. Sudhir Misra Professor, Department of Civil Engineering Indian Institute of Technology Kanpur, India



I understand that the International Center for Urban Safety Engineering (ICUS) is completing ten years of operation during which it took the understanding of issues related to urban safety to a higher level. Taking over from its predecessor, the International Centre for Disaster Mitigation Engineering (INCEDE), ICUS worked with great energy and positive attitude to promote research in relevant areas and promoted greater understanding and a spirit of cooperation among the professionals in the region. I take this opportunity to express my thanks to all the ICUS members for their tireless efforts.

My association with ICUS started in its early years when I served a term as Visiting Faculty and continued through participation in the international conferences organized by ICUS. ICUS provided a unified platform for not only engineers and scientists, whose role in disaster mitigation is well understood, but added another dimension to the studies by including policy makers, who are obvious stakeholders for promoting urban safety, especially in large cities. Through initiatives such as establishing network offices, publication of newsletters and other documents, and international conferences, ICUS contributed greatly to create awareness and promote research in different relevant areas in the region. These also contributed to bringing the professionals in the region closer.

At the end, I would only like to mention that the devastating earthquake and tsunami in Japan in March 2011 is a reminder to us all of the forces that nature can unleash and highlights the inadequacy of our preparedness in all forms. The threat of these natural disasters triggering an industrial disaster of unfathomable proportions only underlines the need for greater regional and global cooperation and pooling of efforts in working towards a safer environment of the future. It is heartening to note that the Institute of Industrial Science, the University of Tokyo has expressed a commitment to further the work of ICUS in the future. I wish the endeavour all success and look forward to an opportunity to be a part of the sustained effort. Dr. Tsuneo Katayama Professor Tokyo Denki University Tokyo, Japan



BE HUMBLE TO THE NATURE

A devastating disaster again occurred. This time, the death count mostly due to tsunami will probably be more than 15,000. When the earthquake took place, I was having a meeting in the center of Tokyo. The shaking was the strongest and longest I have ever experienced. Buildings I saw from the meeting room were visibly swaying, and it was horrible to watch a tall construction crane moving back and forth just across the street. I thought "The One" had finally come. But, buildings in Tokyo were standing sound and intact after the shaking. I watched on TV as tsunamis swallowed many towns and villages along the Pacific coast in the Tohoku area. It was hard to believe that such a disaster was really taking place in front of us.

On the sixth day after the earthquake, conditions of the damaged nuclear power plants are still serious. They seem to be getting worse and worse every day. According to one of my daughters, we all have enjoyed civilized and bountiful life thanks to electricity for a long time. If something should now happen to us, we would be paying heavy compensation to what we have enjoyed in the past. It may be true. Children outgrow their parents. I am rather a person with no religious belief, but now I find myself praying to God.

After the 1995 Kobe earthquake, I talked and wrote: We the experts had been ignorant, too self-confident, and we did not tell people what we did not know. In one of my favorite books, a woman says to a private detective, the protagonist of the story, "You selfsufficient, self-satisfied, self-confident, untouchable bastard." I feel as if I were him. Although Japan's earthquake engineering level is high, and although we have upgraded the strength of structures, including that of nuclear power plants, we should have continued to think further. We should have admitted that there are so many things we still do not know. **Dr. Mehedi Ahmed Ansary** Professor, Department of Civil Engineering Bangladesh University of Engineering and Technology Dhaka, Bangladesh



First I would like to express my heartfelt condolences due to the irreparable loss in Japan due to the March 11, 2011 Magnitude 9.0 Earthquake and consequent tsunami.

INCEDE preceded ICUS. During my stay in Japan during 1993 to 1996 as a Ph.D. student in the University of Tokyo, INCEDE served as a major driving force in international cooperation in areas related to disaster mitigation engineering, disaster preparedness and field surveys especially in floods and earthquakes. ICUS started its journey in 2001 with an objective to develop new technologies for safety and integrity of structures, in service maintenance and management systems for infrastructures during a disaster and use of Remote Sensing in creating a safe environment. My cooperation with ICUS started in 2006, when I was invited to work as a visiting Associate Professor there and later in the same year ICUS established a branch office in Bangladesh – BNUS. Prof. Taketo Uomoto and Prof. Kimiro Meguro played a vital role for the establishment of BNUS. Later they also played a key role in the establishment of BUET-Japan Institute of Disaster Prevention and Urban Safety (BUET-JIDPUS) at BUET in 2009. Establishment of this Institute was only possible due to the leadership of former Japanese Ambassador in Bangladesh HE Mr. Masaki Inoue.

I hope the new ICUS will continue its previous activities and we would like to continue our international research collaboration with ICUS. Last of all I wish the new ICUS a happy journey to its future.



Dr. Dushmanta Dutta Adjunct Senior Research Fellow, Monash University Senior Hydrologist, CSIRO Australia

It has been almost six years since I moved from ICUS to join Monash University, Australia. I was a founding member of ICUS and I led the establishment of its first regional network office (RNUS) in Bangkok in 2003 and coordinated the activities of RNUS for two years. In the last six years, my association with ICUS has been mainly through my regular participation at the annual series of the international symposia on new technologies for urban safety organised by ICUS and its partners. These symposia have given me the great opportunity to update myself on the excellent progress ICUS has made in developing new knowledge, innovative tools and technologies for addressing the complex issues of urban safety in a wide range of important topics. The depth and breadth of research and quality of outputs produced by the center has been very impressive. The impacts of research at ICUS are clearly reflected on the outcomes generated by the projects undertaken by ICUS. The continued endeavour of ICUS towards urban safety in Asian mega cities is highly visible in the activities of its regional network offices in Bangkok and Dhaka.

The high population and economic growth, urban development and environmental changes in the recent decades have been contributing to the rapid increase in the catastrophic risk from natural and man-made disasters in urban areas in many countries around the world. The recent catastrophic events in different parts of the world clearly show that we are far behind in urban safety and risk management. There is continued need for research and technological development to face the challenges of managing urban risk from natural and man-made disasters in the 21st century. I am pleased that ICUS has been extended for another five years. With the experience of over 15 years, ICUS is in the best position to address some of these challenges. I wish the ICUS team very best. **Dr. Satoru Nishikawa** Director of Regional Planning Ministry of Land, Infrastructure, & Transportation Japan



APPLICABLE INNOVATION AND RISK COMMUNICATION BASED ON SCIENCE - THE CRUCIAL ROLE OF ICUS -

There are many aspects for which ICUS deserves appraisal. I would like to highlight two of them.

First is applicable innovation. The modern science and technology provides us with numerous fantastic methods to reduce risk and upgrade safety. But in real life, there is always the big bottleneck; application to common life, be it in Japan or be it in developing countries. No matter how the technologies are innovative, unless they are applied, they only serve as nice displays on the showcase. ICUS has rightly focused on this aspect and has provided applicable solutions. The affordable PP-band seismic retrofitting is a very good example for the case of vulnerable masonry houses.

Second is risk communication. It is human nature to underestimate or neglect the actual risks they are facing. On the other hand, modern science and technology enables us to quantify these risks. How to fill the gap between the two is the challenge. ICUS has developed various methods to address this crucial gap. From various computerized graphic simulation to picture books, ICUS has developed effective risk communication methods which were greatly appreciated by a wide range of people.

For the next stage of ICUS, I look forward to be exposed to more of the ICUS outputs with these characteristics.

Dr. Srikantha Herath

Academic Director, Post graduate program Senior Academic Program Officer Institute for Sustainability and Peace, United Nations University



It is my great pleasure to have an opportunity to send a congratulatory message to ICUS on the occasion of its new 5-year term. I had the privilege of contributing to global disaster risk reduction program through INCEDE, the predecessor to ICUS, in the '90s. In recent times I have observed with admiration the expansion of ICUS activities, not only in Japan but also in Asia through its offices at AIT, Bangkok and BUET, Bangladesh. I am also very much thankful to contributions of ICUS to the United Nations University programs, through Professor Meguro and his staff. INCEDE and ICUS have always been in the forefront of disaster risk reduction efforts of the world looking for innovative solutions.

Now, more than ever, this pioneering spirit is called into action. The catastrophic Tohoku disaster has shown clearly the extent of losses our modern societies could suffer from complex multi-hazards when hazard intensities go beyond our assessments. With expected increase of weather-related events intensities due to climate change, mitigating losses from extremes that go beyond assessments demands immediate and urgent attention. ICUS with its large network of disaster specialists around the world and two decades of experiences behind is well equipped to take up these new challenges. I wish the 'new' ICUS every success in their mission to develop effective disaster risk reduction solutions to make the world a safer place for all of us. Dr. Pennung Warnitchai Associate Professor, School of Civil Engineering Asian Institute of Technology Bangkok, Thailand



It was like yesterday when I first heard about ICUS and its plan to collaborate with AIT in setting up a Regional Network Office for Urban Safety (RNUS) at the School of Engineering and Technology of AIT. Now already nine years have passed, and so many active and capable research scientists and engineers have been dispatched from ICUS to work at RNUS.

The idea of RNUS has proved to work wonderfully well. The RNUS researchers have made significant contributions to urban safety engineering through numerous collaborative research projects, seminars, symposia and publications. At the same time, they have gained more understanding about various 'problems' and 'conditions' in Asia. I myself also have had several opportunities to closely work with some of them.

As a 'new' ICUS will begin very soon, it may be the right time to look back into all activities of ICUS, RNUS, and other associated centers (BNUS, etc.) in the past and find out which ones really 'work' and which ones don't. Based on this review, it might be possible to identify just a few key activities to concentrate our future efforts on. The selected activities should be associated with long-term, ambitious (but achievable) noble goals, which can be clearly defined by expected outputs and outcomes. It might take time to find such goals. But if the goals are explicitly defined and are agreeable by ICUS family members, I believe they will help shape the future of ICUS into something that produces more impacts to 'Urban Safety'. This is just a suggestion from a friend of ICUS.

Dr. Sodnomsambuu Demberel

Scientific Secretary, Research Center of Astronomy & Geophysics, Mongolian Academy of Sciences Ulaanbaatar, Mongolia



It was a great pleasure for me to hear that after ten years of productive and efficient work, the International Center for Urban Safety Engineering (ICUS) will be supported with 5-year funding. I would like emphasize that it is also a support for us, for the research organizations from developing countries, because ICUS research and technical activities with us on seismic risk mitigation field and a transfer of new knowledge, skills and experience to developing countries is extremely important and useful for the development of safer urban environment in these countries. It is a fact that the developing countries are affected relatively more seriously by strong earthquakes than developed countries. Clearly, we need to make improvements in our preparedness for earthquakes and to learn from developed countries like Japan how they have developed urban safety engineering including the maintenance and management of infrastructures. ICUS activities over the past ten years are a good example of fruitful and multi beneficial international cooperation on seismic risk reduction in Asia and in the World.

"The National Program on Seismic Risk Mitigation in Mongolia" (2009) and "the National Action Plan on Earthquake Disaster Reduction" (2010) were adopted by the Government of Mongolia as important outcomes of the Asian Science and Technology Forum on the mitigation of earthquake disasters in Mongolia which was organized in Ulaanbaatar by Japanese and Mongolian scientists. In the conjunction of recent seismic activities in the active faults near Ulaanbaatar city it is crucial important for the Government of Mongolia to develop and enhance the scientific, technical and public activities on the seismic risk mitigation field.

We are looking forward our collaboration with ICUS for the development of safety of urban infrastructure from strong earthquakes and other natural disasters in Mongolia. We believe that an international scientific and technical cooperation is one of the key factors on the seismic hazard reduction in the world, especially in the developing countries.



Ms. Yuki Matsuoka Head, United Nations International Strategy for Disaster Reduction Hyogo Office, Kobe, Japan

We would like to congratulate ICUS on its renewal from April 2011, building on the ten-year accumulation of universal knowledge and state-of-the-art technologies.

At the UN World Conference on Disaster Risk Reduction held in Kobe in 2005, "Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters" (HFA) was adopted as the global policy guideline on disaster risk reduction. In the context of promoting the implementation of the HFA, UNISDR has been collaborating with ICUS to advance expertise and disseminate the knowledge, technologies and lessons learnt in the area of urban environment and risk reduction.

Today, cities are growing bigger and faster than ever in human history and hold over 50 percent of the global population. They are centers of technology, innovation, economic growth and culture – people want to live in cities and be part of modern life. On the other hand, cities are at high risk because of their rapid growth and high pressure on infrastructure with which lots of governments cannot even keep up. Cities are often lying in the coastal areas or built on the seismic fault lines; therefore, they are exposed vulnerably to multiple natural hazards.

As a member of the Asian Regional Task Force on Urban Risk Reduction (RTF-URR) which is facilitated by UNISDR as one of the thematic platforms of the ISDR system, ICUS has been contributing to the ISDR Global Campaign "Making Cities Resilient: My City is Getting Ready!" In particular, it organized the annual international symposium on "New Technologies for Urban Safety and Mega Cities in Asia" on the International Day for Disaster Reduction, 13 October on 2010, to call partners all over the world for joining us to reduce urban disaster risk. We trust that the new ICUS will continue its great contribution to urban risk reduction in Asia and the world. We look forward to furthering our collaboration with ICUS.



2001-2002



2004-2005



2007-2008

ICUS members over the years



2002-2003











2003-2004







2009-2010

Editor's Note

First, I would like to thank all those who contributed and shared their thoughts and past experiences with the "old" ICUS. Due in part to their continual support over the last ten years, ICUS was able to receive a very positive evaluation from the External Evaluation Committee. From these past results, the Institute of Industrial Science, the University of Tokyo, approved the extension of ICUS and its activities for another 5 years. We hope that this "new" ICUS will be able to receive and enjoy the same level of support and friendship that the "old" ICUS did, and we will work to continue conducting research activities at the highest level towards urban safety into the future.

As most of you know, on May 11, 2011, a huge earthquake of Mw9.0 struck the eastern region of Japan. Very strong and long duration ground motions were observed over a large area in Japan. Damage to infrastructure, buildings, and houses due to ground motion, fires, and ground failure including land slide and liquefaction were also observed. However, the most serious damage was due to the killer tsunami induced by the Mw9.0 gigantic earthquake. The unprecedented tsunami resulted in huge damage up and down the coast of Tohoku and in the Kanto region, including nuclear power plants.

This damage is still affecting people across Japan even today, weeks after the occurrence of the earthquake, and I wish to express our deepest sympathies to all the victims and affected people. As a university research organization, ICUS will work its hardest to support and contribute to the recovery of the affected areas towards improving and protecting people's lives and livelihoods and ensuring a safer society for future generations.

(by K. Meguro)

