

Activities

Adopting a memorial tradition from Kobe's 1995 Earthquake. "Katari-tsugi –A recital and musical evening–" to convey memories of the disaster to the next generation.



Associate Professor
Akihiro Shibayama
Disaster Information Management and Public Collaboration Division Disaster Digital Archive

Disaster risk reduction expert
Madoka Ono
Disaster Information Management and Public Collaboration Division Disaster Digital Archive

Rescuing old documents damaged by the earthquake and tsunami to convey the rich history of the region to future generations via historical materials



Associate Professor
Daisuke Sato
Human and Social Response Research Division Preservation of Historical Materials

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Regional Activities

During the "Katari-tsugi –A recital and musical evening–" actress Keiko Takeshita recited a poem expressing the thoughts of the disaster victims. IRIDeS has been holding this event since 2013. "This event was first held in Kobe in 1996. I want to prevent memories of the earthquakes from being lost and convey an important message for disaster prevention/reduction," says Associate Professor Akihiro Shibayama of Disaster Digital Archive. He is in charge of managing the event with Ms. Madoka Ono.

The poems read during the Katari-tsugi, poems are created based on testimony gathered by the Michinoku Shinrokuden archive project, etc. Michinoku Shinrokuden is a project of IRIDeS that collects photos, video, and testimony related to the Great East Japan Earthquake by creating links with the private industry, government, and academic institutions. The project members pick up testimony from the archive and express them in the form of poetry. "We also conduct field work to make the testimony more real," says Prof. Shibayama.

At the event, orchestral music is played in addition to the recital by Ms. Takeshita. The stage background are grand scale of scenes from the earthquake by the artist Hiroshige Kagawa, an oil painter from Zao area.. The event will be held next on March 5th, 2015 at the Tagajo City Cultural Center. It will continue to transmit memories of the earthquake and information on the current situation.



In the first part, local high school students sang a chorus.



Repeatedly listening and confirming to create a poem.

Historic Materials play an important role in knowing the history of regional societies. In the latest large earthquake, a huge amount of old were damaged, and became lost or wet due to the tsunami. Associate Professor Daisuke Sato is conducting activities to rescue these old documents. "Many of the people that own old documents dispose of them when they are cleaning up after a disaster. Before a disaster occurs, we have to survey the location of such documents and convey to their owners that they are an important part of regional heritage." The important activities that Prof. Sato is currently involved with are rescuing old documents found in private homes in the disaster areas. He has also been involved in surveying the location of old documents and creating networks with related people in locations over Miyagi and Iwate, since before the earthquake. It seems that whether materials could be rescued was deeply related to whether he had close relationships with the owners of documents and related local people before the earthquake. "Old documents are extremely important for people in disaster areas to know their own roots, and what knowledge the people of the region have used to live together with nature and disasters. I hope to be able to depict the history of people's hometowns to give them an emotional mainstay."



IRIDeS performs emergency treatment on old documents damaged in the tsunami in cooperation with residents.



An earthen kura of the Honma family built in 1897 has been repaired with the cooperation of experts and residents to become a symbol of reconstruction.

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IRIDeS
International Research Institute of Disaster Science



Tohoku University International Research Institute of Disaster Science NEWSLETTER

Conveying the results of practical disaster prevention research from TOHOKU to the World.



Memorial Issue

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05

Special Topic
What researchers are thinking four years after the 2011 earthquake

Special Section
The Third UN World Conference on Disaster Risk Reduction

Feature 1
Rigorous testing and survey to tackle disaster-related infectious diseases

Feature 2
At the forefront of conveying the practical disaster studies of IRIDeS to the world



New year 2015
at the IRIDeS research building

New disaster risk reduction studies tailored to society from the Tohoku disaster region.

The Tohoku University International Research Institute of Disaster Science (hereinafter referred to as "IRIDeS") conducts research by gathering 37 fields of study in seven divisions that transcend the border between sciences and the arts. IRIDeS promotes "practical disaster risk reduction studies" that can be useful in society and people's lives. IRIDeS aims to utilize its comprehensive knowledge to contribute to the recovery of disaster-affected areas and building a society that can withstand disasters.



Hazard and Risk Evaluation Research Division
Building disaster-resilient society by exploiting lessons from the 2011 Tohoku earthquake and tsunami disaster



Human and Social Response Research Division
Researching the culture and history of domestic and international disasters, disaster cognition, and disaster mitigation/recovery measures



Regional and Urban Reconstruction Research Division
Developing and researching various technologies to create communities where people can live with peace of mind



Disaster Science Division
Revealing the mechanisms behind disasters to forecast hazards



Disaster Medical Science Division
Multifaceted evaluation and enhanced preparedness for health and medical care during disasters



Disaster Information Management and Public Collaboration Division
Enhancing the record of the earthquake and assisting urban reconstruction



Endowed Research Division
Enriching disaster research with private sector donations, etc.



A new building is ready for IRIDeS

1) Exterior 2) Common space on each floor 3) Research laboratories with glass walls 4) Two story open ceiling 5) Library 6) Outdoor deck on fifth floor 7) Server room



The doors are open to convey practical disaster risk reduction

The five story building has a seismic isolation system and has a space for conveying information to visitors

The new building is located on the west side of the Aobayama campus, in a quiet location enclosed by green trees. It was built to further develop research into disaster prevention and reduction, and widely convey the results of research. The five story building made of reinforced concrete employs the lessons learned from the Great East Japan Earthquake to include a seismic isolation system and 72-hour emergency power generation equipment. It uses natural ventilation and natural lighting to enable a work environment to be maintained during an emergency, and the opening features a wide balcony that is designed to prevent direct sunlight from entering. These techniques contribute to maintaining an open, bright, and comfortable indoor environment.

The first and second floors feature a space for conveying information to visitors, a multi-purpose hall for 150 people, seminar rooms, and lecture rooms. The building also has facilities for holding national and international symposiums, including those for

publishing research results and conveying information on disaster prevention and reduction. Another major feature is the multi-purpose hall equipped with a multi-dimensional visualization system. It features a system with a large 2.5 x 10 m screen and three projectors that enable many people to view tsunami and disaster simulations and research results in stereo. The space for conveying information to visitors features a large four-screen display. This display will be used to show video on the latest efforts of IRIDeS, real-time observations, and the earthquake records collected with the Michinoku Shinrokuden earthquake archive project.

Research laboratories are located on the second to fifth floors. The second floor features a server room that enables fast tsunami simulation analysis and large-capacity storage of earthquake data. This enables research to be deepened further. The third floor features a library room with a collection of materials on disasters from the Tohoku region. It has about 16 seats, and also includes new books on disasters to offer a space for reading and self-study.

We want to become the center of disaster risk reduction research in Tohoku through deepening cross-sectoral research on disaster prevention and reduction

"Our eagerly awaited new building is now completed. Now our 140 or so people conducting research who used to be at different places can gather in a same location. Most of the research labs have glass walls to be more opened views, and each floor also features a common space to enable researchers to interact more actively enhancing communication. I hope this open atmosphere will enable discussion that transcends the borders between different fields and provide an opportunity for researchers to solve each other's problems.

We also plan to use the building as a place for disaster risk reduction education. The multi-purpose hall includes a Special monitor supporting 3D video/images, enabling visitors to watch precious and spectator 3D video/image captured immediately after the Great East Japan Earthquake occurred as example. The library also contains a large amount of materials about the disaster. We plan to open our doors to the general public after thinking up events that will meet their requirements.

We also have a project room that can be used for Japanese and international institutions and people involved in disaster risk reduction in various regions. This room is already being used by Tokio Marine & Nichido Fire Insurance, and we hope it will be utilized by more institutions in the future.

This building has the potential to become the center of disaster risk reduction research in Tohoku. I am certain we will be able to further deepen practical disaster risk reduction studies in an environment with the latest equipment."



Fumihiko Imamura
Director of IRIDeS
Hazard and Risk Evaluation Research Division
Tsunami Engineering Research

Dedication ceremony held on November 10th, 2014



A dedication ceremony for the new building of IRIDeS was held in the multi-purpose hall on the first floor of the new building on November 10th, 2014. Director Fumihiko Imamura gave a welcome speech after a moment of silence for the lives lost in the Great East Japan Earthquake. He expressed his wish for the building to become a center of comprehensive disaster risk reduction research. After his speech, the tape to the building was cut by President of Tohoku University, Susumu Satomi, Deputy Director-General of the Ministry of Education, Culture, Sports, Science and Technology, Yoshio Yamawaki, and head of the Miyagi office of the Reconstruction Agency, Yasuyuki Kajiwara, to celebrate the dedication of the new building.

Special Topic

What researchers are thinking four years after the 2011 earthquake

Professor Makoto Okumura

Deputy director of IRIDeS
Human and Social Response
Research Division
Disaster Area Support

Graduated from the Graduate School of Engineering at Kyoto University. Specializes in regional/urban planning, transport planning, and transport interruption/geographical isolation problems.

Assistant Professor Masashi Amano

Human and Social Response
Research Division
Preservation of Historical
Materials

Withdrew from the Faculty of Arts and Letters at the Graduate School of Tohoku University after earning the credit required for his doctor's course. Specializes in early modern and modern Japanese history, paleography, and the preservation of historic materials.

Associate Professor Keiko Udo

Hazard and Risk Evaluation
Research Division
Disaster Potential Study

Completed her doctor's course at the Department of Structural Engineering at the Graduate School of Engineering at the University of Tsukuba. Specializes in coastal engineering and hydraulic engineering/hydraulics.

Assistant Professor Takeshi Iinuma

Disaster Science Division
Marine Geodesy Research

Completed his doctor's course at the Department of Earth and Planetary Science at the Graduate School of Science at the University of Tokyo. Specializes in solid earth geophysics (geodesy and tectonophysics).

Four years have passed since the Great East Japan Earthquake. What are researchers that experienced the earthquake thinking about and doing now?

Deputy director of IRIDeS Professor Okumura presided over the discussion between researchers in the fields of history, engineering, and science about how they felt during the earthquake and their future research.

Experience from an earthquake of unexpected size drove research transcending the boundaries of academic fields

Multi-disciplinary research for knowledge to help future disaster areas

Prof. Makoto Okumura (Prof. Okumura): First of all, please tell us about your situation when the earthquake struck.
Prof. Masashi Amano (Prof. Amano): Immediately after the earthquake struck I did not know what had happened and was completely bewildered, but I gradually became to realize the seriousness of the situation. I conduct research into the preservation of historical materials surviving in the region. At the time, surveys on the whereabouts of materials were relatively advanced in inland areas, but were not necessarily so in areas that were hit by the tsunami.

Prof. Keiko Udo (Prof. Udo): The tsunami flowing up the Sendai Plain left a strong impression on me. I specialize in research related to topographical changes on beaches due to waves and wind, and I was shocked because I was already surveying beach topography changes along the sendai coast before the tsunami struck. I wanted to survey the coast as quickly as

possible, but was unable to immediately do so due to my pregnancy at the time, which was very frustrating.

Prof. Takeshi Iinuma (Prof. Iinuma): At the time the earthquake struck, I was in the middle of analyzing the M7.3 earthquake that occurred on March 9, 2011. I felt that the consecutive aftershocks hinted at something alarming, and started to conduct a comparison with past earthquakes off the coast of Miyagi prefecture. Everyone thought that the biggest earthquake that could strike off the coast of Miyagi prefecture was about M8, so I was shocked to hear that the earthquake was M9. I couldn't immediately imagine what had happened off the coast of Miyagi prefecture.

Prof. Okumura: Did an earthquake beyond your imaginings cause anything to change in your scientific research?

Prof. Iinuma: I became extremely conscious of the output of my research. A tsunami early warning stating that a 3 meter tsunami would hit Iwate and Fukushima prefectures and a 6 meter tsunami would hit Miyagi prefecture caused many tragedies. The immediacy and instantaneity of information is the

most important thing right after a disaster strikes. I am not conducting research that is directly related to early warning of earthquakes and tsunamis, but I do conduct my research while considering how it may affect such output. I believe that this is the case for the entire field of seismology. Up until now, importance was placed on the prediction of disasters, but now research to reduce the damage from disasters has also become important.

Prof. Amano: The disaster has also caused changes in academic fields related to the preservation of historical materials and cultural assets. Various specialists are involved in the preservation, restoration, and organization of historical materials, but up until now, cooperation between them has not always been optimal. This sometimes causes relief efforts to not function properly in disaster areas, which can cause confusion.

I believe that we can use this lesson to build a network encompassing the academic fields related to historical materials and cultural assets, which can enable efficient salvage of materials immediately after a disaster occurs.

We have also become more conscious of connections with local government and other key persons. People in regions that already had strong connections were able to start surveying relatively early after the earthquake, and this made me acutely aware of the importance of human connections.

Prof. Udo: The field of hydraulic engineering also learned many things from the earthquake and tsunami. For example, up until now we had rarely observed large-scale beach erosion in Japan due to a tsunami, but it was observed in the south of Miyagi prefecture this time. We really need to analyze why this happened from a comprehensive point of view. I believe that accumulating data and correctly understanding phenomena will be important for managing coasts in the future. Recovery is progressing rapidly in the disaster areas. I think we have to properly evaluate how coastal systems function in a disaster, including artificial structures such as seawalls, by collaborating with other research fields such as economics. This evaluation could promote maintenance that takes the environment and usage into consideration, in addition to disaster risk reduction. If we enhance our research in this way, we will be able to convey useful knowledge when a disaster occurs in other areas. Since IRIDeS is capable of this kind of multi-disciplinary research, we should

build such connections.

Prof. Okumura: Multi-disciplinary research is the specialty of IRIDeS. How does it relate to your research, Prof. Iinuma and Prof. Amano?

Prof. Iinuma: In science, there are many opportunities for connecting with other fields. I am currently involved with conducting research into the Enpo tsunami in conjunction with researchers in the field of history, and science could surely be of use in other academic fields. I hope we can create opportunities for receiving requests from other fields so that we can conduct research with a wider perspective.

Prof. Amano: I am currently interested in "earthquake materials" that have been created due to the earthquake. For example, flyers or meeting minutes created in evacuation sites contain a record of how people and society behave and think when a disaster occurs. These materials are a historical record of the earthquake for future generations. I would like to cooperate with other academic fields to collect and research such materials.

Prof. Okumura: Thank you very much. I am looking forward to your future research.

Message from the Director

Efforts for spreading the knowledge of IRIDeS and preventing memories from being lost

The fourth March 11th after the 2011 Great East Japan Earthquake was also the third year for IRIDeS. Recovery in the disaster areas is entering a new stage. We will have to focus on the recovery of industry, in particular primary industry. At IRIDeS we must connect with the recovery industry while enhancing links with the fields of economics as well as agricultural studies. I hope we can provide with effective assistances to industry from the perspective of disaster risk reduction, while conducting assessments into locations for building new facilities and formulating evacuation routes for resilient community.

Preventing memories of the earthquake from being lost will also be a major issues. IRIDeS is continuing activities for its "Michinoku Shinrokuden" archive project for the Great East Japan Earthquake. The goal of the project is to collect memories, records, case studies, and knowledge related to the Great East Japan Earthquake, and we have already collected a vast amount of data and information. In addition to the collection of the data itself, how the collected data should be conveyed will be an important issue. I hope we can share the knowledge of "Michinoku Shinrokuden" with not only the entire Tohoku region, but other regions where disasters may occur in the future and countries over the world.

IRIDeS will continue to promote multi-disciplinary research, and recent attention has focused on the collaborative research between young researchers. I wish for everyone at IRIDeS for further develop research into practical disaster risk reduction studies.



Professor
Fumihiko Imamura
Director of IRIDeS
Hazard and Risk Evaluation Research Division
Tsunami Engineering Research

Role of IRIDeS at the UN World Conference on Disaster Risk Reduction

The third UN World Conference on Disaster Risk Reduction will be held at the Sendai International Center for five days from March 14th to March 18th, 2015. What is the purpose of this conference and what will it entail? The purpose and framework of the conference is described below.

What is the UN World Conference on Disaster Risk Reduction?



The UN World Conference on Disaster Risk Reduction (WCDRR) is a world conference organized by the United Nations for

developing a post-2015 framework for disaster risk reduction. The first conference was held in Yokohama in 1994, and the second conference was held in Kobe in 2005. The second conference was very successful, as it defined the Hyogo Framework for Action, which was the international disaster risk reduction policy for the years 2005 to 2015.

Expected participants include the 193 member countries of the United Nations, NGOs, and international organizations. More than 50,000 people are expected to visit Sendai, including accompanying

persons. The five-day main conference will feature speeches from the representatives of each country, high-level round table discussions, various side events, and negotiation on the final document that will be adopted at the end of the conference.

The final document will not be decided upon during the main conference alone. It has already been considered several times before, and a draft has been released to the public. The main conference is for conducting final negotiations between governments based on the draft document.

Why has the conference been held in Japan all three times?



UN conferences are normally held at the UN headquarters, like the general assembly, or hosted by various countries, but the

WCDRR will have been held in Japan all three times. It is normal to perform disaster prevention and reduction in Japan, but there are some countries in the world that do not actively do so. Japan has actively made efforts to reduce disaster risks from a long time ago, such as implementing flood control measures and fire prevention measures. After the Second World War, Japan invested in disaster risk reduction even when suffering from food shortages. Because Japan has been implementing disaster risk reduction policies since it was a developing country and then experienced

rapid economic growth, it has the power to persuade today's developing countries. Japan has knowledge that can become a model for the world.

A major reason why the WCDRR was attracted to Sendai is to accelerate recovery in the areas affected by the 2011 Tohoku Earthquake and Tsunami. Holding a conference will prevent memories of the disaster from being lost and connect the disaster areas with the world. Japan also wants to repay the kindness shown by other countries who helped out after the 2011 Tohoku Disaster.

What is the difference between the main conference and the public forum?

The main conference will be the most important conference held during the WCDRR, as it will involve discussions on formulating a new framework and a declaration that will be transmitted to the world as the result of the conference. The main conference will be held at the Sendai International Center, but mostly only representatives of each country will be able to participate. Other people will participate in public events such as symposia and exhibitions that will be held as side events.

These events will be coordinated by Sendai City in collaboration with the Japanese

government and the United Nations, and be held mainly around Jozenji Avenue and the Kawauchi North campus of Tohoku University by academic institutions such as those from Tohoku University, including IRIDeS, international organizations such as the UN, business communities working on disaster risk reduction, countries, local governments, and groups such as NGOs. The themes of the events are varied, but all related to disaster risk reduction. Researchers will conduct lectures and sessions, and events and tours about the 2011 Tohoku Disaster are also planned. The

events are targeted at everyone from researchers and people working with disaster risk reduction, to regular citizens. Some lectures will also be conducted in English.

The public events are also a place to enhance interaction between the people that have gathered for the purpose of the disaster risk reduction conference. They have an important role in spreading knowledge on disaster risk reduction, and have important implications on whether the conference can be considered a success.

Our idea about the role of IRIDeS

Bridging the gap between the UN World Conference on Disaster Risk Reduction and disaster-affected areas

"How can the WCDRR be considered a success? We need to formulate a substantial final document that frames significant components of disaster risk reduction over the world, but I think it is also important to create a meaningful event for both the people of the world that visit Tohoku and the local residents. The people that visit the WCDRR will not come here only for the main conference. Many people will also actively participate in the public events. As a research institute in the area where the conference will be held, I believe we should enrich the events and exhibitions for the government officials and researchers of the world. For example, people are now very interested in the areas affected by the Great East Japan Earthquake. An important job for us is to plan tours to visit these areas and create an opportunity for visitors to interact with local people. The WCDRR was also attracted to Sendai to spur reconstruction, share lessons learned from the disaster, and prevent memories from being lost. I want the WCDRR to be accessible and useful for the people living in disaster areas. Tohoku University is helping to arrange tours to

guide visitors to disaster areas such as Iwaki, Ishinomaki, and Rikuzentakata. I hope this will convey the situation of these areas in detail and promote communication with local residents.

I also hope that we can periodically hold international forums on disaster risk reduction in Sendai after the WCDRR is over. I am thinking about something like the World Economic Forum held in Switzerland. It would be good if we could hold symposiums where researchers, government officials, and international organizations can gather, and also have exhibits, etc. describing the activities of companies involved in disaster risk reduction. It would be ideal if people over the world would come to think of Sendai when it comes to disaster risk reduction, like the way they currently think of Davos when it comes to economics. The reconstruction in Tohoku is proceeding every day, and the situation continues to change. By periodically holding an international disaster risk reduction forum, the people of the world would be able to take a close look at the reconstruction process in Japan, and refer

to it when formulating disaster risk reduction policies in their own countries.

The WCDRR will not simply be over after it is held. I would like to use it as an opportunity to expand our activities. I want to use the WCDRR as a launching pad for continued action that will enable the Tohoku region to flourish in the world. This is because I believe that is the mission of IRIDeS, which is an international institute that was founded to advocate practical disaster risk reduction studies after the disaster in 2011."



Professor
Yuichi Ono

Disaster Information Management and Public Collaboration Division
International and Domestic Liaison Office

Evaluating the 2005 Hyogo Framework for Action as a disaster research institute

Other members and I investigated what knowledge can be gained from the 2011 Tohoku Disaster, based on the Hyogo Framework for Action 2005 – 2015 (HFA). We then published three version of the HFA IRIDeS Review Report after one year of research that started last summer. The report listed 37 topics related to the 2011 Tohoku Disaster and the status of disaster risk reduction in Japan. It included what has changed in the last 10 years or before and after the disaster, and indicated recommended examples and issues that

were identified for future reference. I want to convey the content of this report to West Japan, where a large earthquake and tsunami is feared to strike in the future, and the rest of the world. With the WCDRR, the network linking IRIDeS and the world will surely expand and strengthen. I hope we can utilize those links to convey knowledge to the world with a sense of responsibility, and play our part as an international center for disaster research.



Professor
Osamu Murao

Regional and Urban Reconstruction Research Division
International Strategy for Disaster Mitigation

Bridging medical and the public health sector into the next Framework of Action in WCDRR

Up until now, medicine during disasters has focused on saving lives immediately after a disaster occurs. However the 2011 disaster highlighted the necessity of creating an environment in which disaster victims can live with a healthy mind and body after the acute phase. Disaster medical systems including "DMAT" functioned extremely well but health crises such as not having their medicine, and treatment, people who need special assistance, or even glasses, or false teeth. This knowledge must be widely conveyed to the world. In May 2014, we

organized an international symposium on disaster management and public health and created a consensus of experts that physical and mental health is to be focused as a disaster risk reduction. IRIDeS proposed revisions to the HFA. IRIDeS is driving the field of disaster medicine. IRIDeS will continue to promote the creation of systems that enable people to live healthily even after a disaster.

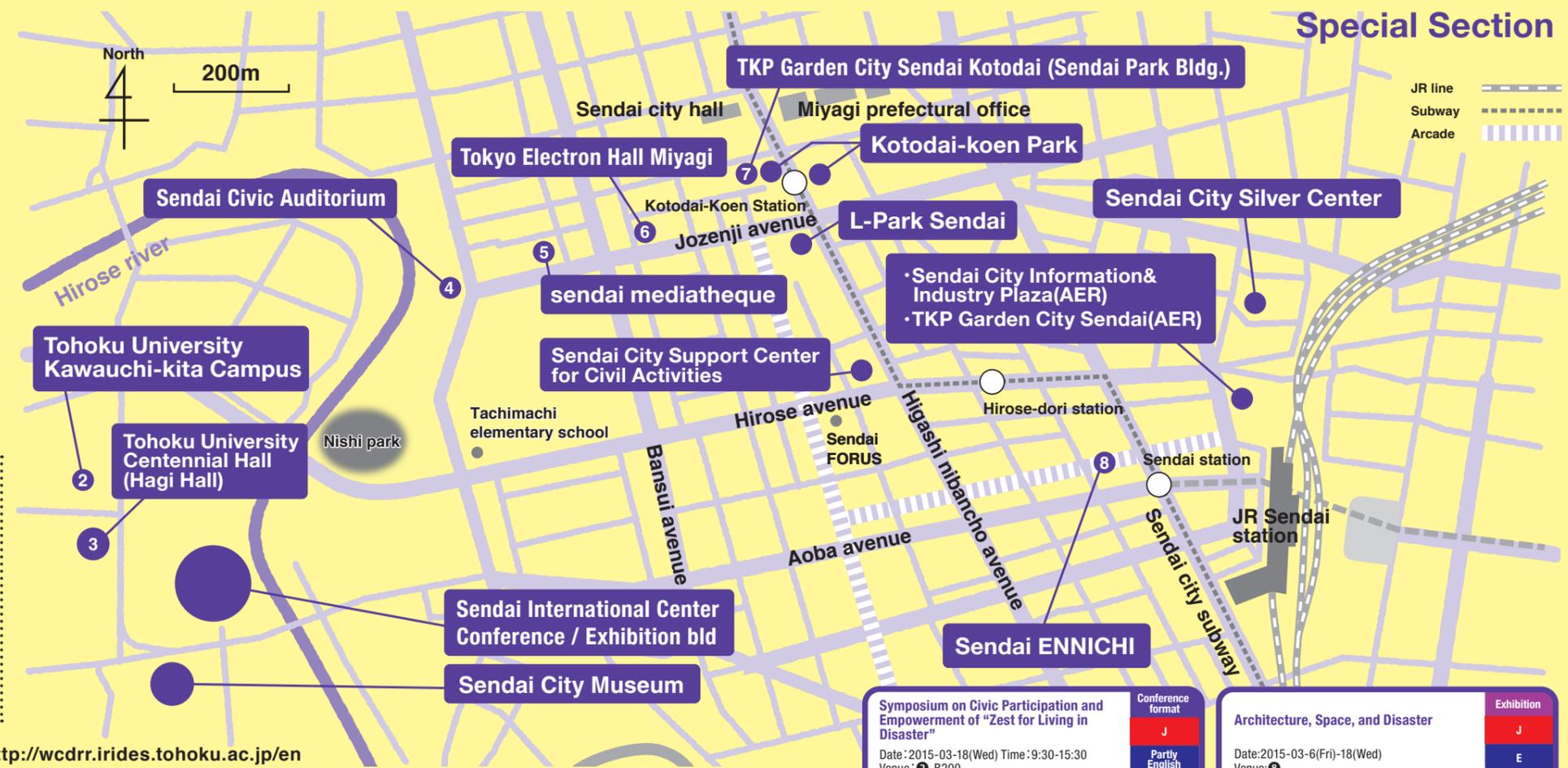
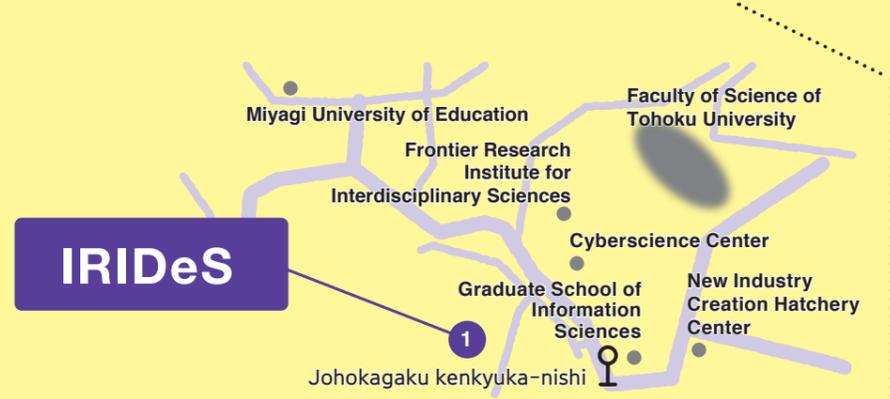


Professor
Shinichi Egawa

Disaster Medical Science Division
International Cooperation for Disaster Medicine

Actions of IRIDeS for public forums and the UN World Conference on Disaster Risk Reduction

IRIDeS will hold as many as 30 or more public forums and events for the WCDRR. Many researchers will conduct various forums, exhibitions, and tours, etc. centered on Sendai city in order to convey their knowledge built up over the years to the world.



See here for details on events held by IRIDeS and other co-hosted events: <http://wcdrr.irides.tohoku.ac.jp/en>

Language: **J** ...Japanese **E** ...English Organizer:Org

<p>Tohoku Forum for Creativity - The 2011 Great East Japan Earthquake Memorial Symposium and 3D Documentary <i>The Great March Eleventh Tsunami: Remembering for the future</i> Date: 2015-03-10(Tue) Time: 12:30-20:00 Venue: ② Org:IRIDeS & NHK-MT</p> <p>Conference format J E Interpreted</p>	<p>International Forum for Promoting Education on Disaster Resilience Date: 2015-03-14(Sat) Time: 9:30-16:50 Venue: ②-Multimedia Hall Org:Aiko Sakurai</p> <p>Conference format J E Interpreted</p>	<p>Social Implementation of Disaster Robots and Systems Date: 2015-03-14(Sat) Time: 13:30-16:00 Venue: ②-Rm 601 Date: 2015-03-16(Mon) Time: 9:50-11:50 Venue: ②-hall1 Org:Satoshi Tadokoro</p> <p>Conference format J E Interpreted</p>	<p>3D Documentary <i>The Great March Eleventh Tsunami Remembering for the Future</i> (Special 25min. edition) Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A200 Org:Anawat Suppari</p> <p>Exhibition J E</p>	<p>Disasters in the World and Urban and Architectural Design for Disaster Risk Reduction Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Osamu Murao</p> <p>Exhibition J E</p>	<p>The 2011 Great East Japan Earthquake and Tsunami - the Past and the Future- Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Osamu Murao</p> <p>Exhibition J E</p>
<p>Lessons learned from recent water-related disasters in Southeast Asia ~How to save lives~ Date: 2015-03-14(Sat) Time: 17:05-19:55 Venue: ②-C202 Org:Shuichi Kure</p> <p>Conference format E Consecutive Interpretation</p>	<p>Enhancing Disaster Resilience by Fusion of Simulation, Sensing and Geospatial Information Date: 2015-03-15(Sun) Time: 9:30-16:45 Venue: ②-Multimedia Hall Org:Shunichi Koshimura</p> <p>Conference format J E Interpreted</p>	<p>Tohoku University Symposium Our Message to the future ~ Lessons learned from the Great East Japan Earthquake ~ Date: 2015-03-15(Sun) Time: 10:30-17:00 Venue: ② Org:Fumihiko Imamura, Makoto Okumura and others</p> <p>Conference format J E Interpreted</p>	<p>Technology demonstrations and exhibition on "Enhancing Disaster Resilience by Fusion of Simulation, Sensing and Geospatial Information" Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Shunichi Koshimura</p> <p>Exhibition J E</p>	<p>Passing on our historical heritage -the studies of Pre-Disaster Activities to Preserve Historical Materials- Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Daisuke Sato</p> <p>Exhibition J E</p>	<p>Experimental practices of reconstruction design in Ishinomaki city Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Yasuaki Onoda, Katsuya Hirano, Michio Ubaara, Tepppei Kobayashi, etc.</p> <p>Exhibition J E</p>
<p>Capacity Building of Earth Sciences toward decrease of geohazards: Establishment of global networks for decreasing geohazards Date: 2015-03-15(Sun) Time: 13:00-18:00 Venue: ②-C202 Org:Kazuhisa Goto</p> <p>Conference format E Not interpreted</p>	<p>Extreme Natural Disaster due to Climate Change - From Big Data to risk communication Date: 2015-03-15(Sun) Time: 18:00-20:00 Venue: ②-Meeting Room 1 Org:Carine J. Yi</p> <p>Conference format E Not interpreted</p>	<p>Typhoon, storm surge, and wave modelling and damage assessment Date: 2015-03-16(Mon) Time: 9:00-20:00 Venue: ②-Meeting Room 1 Org:Jeremy Bricker</p> <p>Conference format E Interpreted by staff</p>	<p>Tsunami forecasting technology based on real-time geodetic observation Date: 2015-03-14(Sat)-18(Wed) Venue: ②-A102 Org:Ryota Hino, Motoyuki Kido</p> <p>Exhibition J E</p>	<p>Tohoku Reconstruction & DRR Pavilion Date: 2015-03-14(Sat)-18(Wed) Venue: ② Org:Yasuaki Onoda, Masashige Motoe, Akihiro Shibayama</p> <p>Exhibition J E</p>	<p>Tohoku University Reconstruction Action ~Leading the reconstruction of Tohoku and the regeneration of Japan~ Date: 2015-03-14(Sat)-18(Wed) Venue: ③ -Conference Room</p> <p>Exhibition J E</p>
<p>Resilient Communities: Our Home, Our Communities, Our Recovery Date: 2015-03-16(Mon) Time: 9:15-11:45 Venue: ②-Multimedia Hall Org:Osamu Murao</p> <p>Conference format J E Interpreted</p>	<p>Earthquake-induced Tsunami Risk Evaluation (Tokio Marine) Endowed Research Division - Tsunami risk researches and Educational activities for disaster prevention - Date: 2015-03-16(Mon) Time: 9:15-12:00 Venue: ②-B200 Org:Yo Fukutani</p> <p>Conference format J E Interpreted</p>	<p>Resilience Workshop ~Technologies and their social implementation to actualize lithe disaster prevention/mitigation~ Date: 2015-03-16(Mon) Time: 9:45-17:30 Venue: ②-B101(Workshop), A307 (Exhibition) Org:Kenjiro Terada, Makoto Okumura</p> <p>Conference format J E Consecutive Interpretation</p>	<p>Tohoku University Guided Tour#3 Global Research Center for Disaster Science & Campus library Date: 2015-03-17(Tue) Time: 10:30-11:45 Venue: IRIDeS, Tohoku Univ. Org:Osamu Murao, Shuji Moriguchi, etc.</p> <p>Study tour E</p>	<p>"Katari-tsugi ~A recital and musical evening~" Date: 2015-03-05(Thu) Time: 18:00-20:10 Venue: Tagajo City Cultural Center. Org:Akihiro Shibayama</p> <p>Disaster area event J E</p>	<p>Fukushima Coastal Study Tour and Symposium Date: 2015-03-11(Wed)-12(Thu) Time: 8:30-18:00 Venue: Iwaki City, Hirono-Town Org:Michimasa Matsumoto</p> <p>Disaster area event J E Interpreted by staff</p>
<p>Recovery after mega-disasters: People, community and planning Date: 2015-03-16(Mon) Time: 13:00-19:30 Venue: ②-C201 Org:Kanao Iuchi</p> <p>Conference format E Not interpreted</p>	<p>Disater Management and Private Sectors: Private Civil Partnership - from business to community resilience Date: 2015-03-16(Mon) Time: 13:15-15:45 Venue: ②-C206 Org:Takako Izumi</p> <p>Conference format E Not interpreted</p>	<p>Medical and Public Health Preparedness for Large Scale Disaster Date: 2015-03-16(Mon) Time: 13:30-19:30 Venue: ②-B102 Org:Shinichi Egawa</p> <p>Conference format E Not interpreted</p>	<p>"Symposium for Disaster Prevention Regarding People with Special Needs" Resilience for Tomorrow: Creating an Intentionally Inclusive City Date: 2015-03-16(Mon) Time: 13:30-15:30 Venue: Rikuzentakata-shi community Hall Org:Yuichi Ono</p> <p>Disaster area event J E Interpreted</p>	<p>Column Tohoku Reconstruction & DRR Pavilion</p> <p>This project based on Sendai School of Design, which is an advanced design course for creator and architecture students in Sendai. We design an exhibition of the reconstruction, at the entire first floor lobby of Sendai Mediatheque. On the west wall, a 20 m x 6 m photo immediately after the disaster is installed. The photo is enlarged to life-size, to enable visitors to feel like they are really standing there. On the north wall, we will exhibit photos depicting the reconstruction of the disaster affected areas. We believe the power of design to convey a perspective of the reconstruction to the audiences.</p>  <p>Professor Yasuaki Onoda Disaster Information Management and Public Collaboration Division Disaster Reconstruction design & Management</p>	
<p>Archiving and Memorializing Disasters International Workshop Date: 2015-03-16(Mon) Time: 17:30-19:45 Venue: ②-C206 Org:Akihiro Shibayama, Sébastien Boret</p> <p>Conference format E Not interpreted</p>	<p>Science and Practical Disaster Risk Reduction - Role of Universities in DRR Date: 2015-03-17(Tue) Time: 13:15-19:00 Venue: ②-B200 Org:Takako Izumi</p> <p>Conference format E Not interpreted</p>	<p>Think geopark on stricken area: Disaster and Gift of Geo Date: 2015-03-17(Tue) Time: 13:30-15:45 Venue: ②-C202 Org:Miwa Kuri</p> <p>Conference format J E Partly English</p>	<p>Civic Conference for Disaster Risk Reduction Date: 2015-03-19(Thu) Venue: Tagajo City Citizen Activity Support Center Org:Akihiro Shibayama</p> <p>Disaster area event J E</p>		

01 Message

Messages from IRIDeS

Introducing the enthusiasm each department has for the UN World Conference on Disaster Risk Reduction.

Toward effective disaster management of resilient societies

With the full picture of the damage caused by the Great East Japan Earthquake and Tsunami and its lessons, we aim to reconstruct the disaster prevention/reduction technology of the world. In addition to investigating the mechanisms of earthquakes, tsunamis, and wind/flood damage, we integrate modeling and sensing technologies to evaluate the disaster risk and enhance preparedness in communities at risk. Throughout implementing the outcomes of our practical disaster risk reduction studies, we pursue effective disaster management to build sustainable and resilient societies.



Professor **Shunichi Koshimura**
Hazard and Risk Evaluation Research Division
Remote Sensing and Geoinformatics for Disaster Management

Showing the importance of internal/external cooperation

At the WCDRR, we will demonstrate the necessity and effectiveness of disaster management that various groups participate in, integration of humanity and sciences, and international cooperation in reconstruction. For example, we shall highlight the necessity of cooperation between parties such as government, companies/industry, and volunteers, and indicate the significance of preserving and utilizing local historical records and disaster culture. We want to show people the importance of internal/external linking and cooperation for the vigorous recovery of disaster areas and disaster victims.



Professor **Hiroaki Maruya**
Human and Social Response Research Division
Social Systems for Disaster Management

Establishing a disaster science framework for reconstruction

We will raise the importance of recovery plans centered on people and communities for establishing disaster recovery studies based on the lessons learned from the Great East Japan Earthquake. We will also focus on spaces and communities with resilience (the ability to quickly recover from disasters) to present a disaster science framework for recovery by holding lectures and exhibitions from the perspective of humanities/medicine in addition to scientific technology such as information science, robotics, and energy.



Professor **Kenjiro Terada**
Regional and Urban Reconstruction Research Division
Regional Safety Engineering

Making various presentations on tsunami prediction technology, etc.

We plan to introduce technology that we are currently developing for predicting tsunamis based on geodetic/tsunami observations using exhibitions and posters. We will also cooperate with members of the Satellite Applications Mission Directorate in JAXA to provide information regarding the monitoring of the global environment from space and support the space weather workshop held by the UN in Fukuoka city the week before. We will also hold the "IRIDeS-GEM-NIED-OYO Joint Symposium on Earthquake Hazard Risk Evaluation" in the disaster research multi-purpose hall on March 13th, the day before the WCDRR.



Professor **Shinji Toda**
Disaster Science Division
Natural Disaster Research

A disaster medicine framework for the world

The disaster medicine of Japan evolved rapidly after the Great Hanshin Earthquake, and now provides effective responses. This system must be widely shared with the world. On the other hand, we faced many challenges when the Great East Japan Earthquake struck, such as framework and policies for disaster medicine, handling people that require special assistance, psychological care, infrastructure and logistics for healthcare, and training and education for disaster science. We promote activities centered on caring for the bodies and minds of people in collaboration with other fields.



Professor **Shinichi Egawa**
Disaster Medical Science Division
International Cooperation for Disaster Medicine

Enhancing networks in Japan and overseas via the conference

We will transmit the research results of international cooperation that we are currently promoting and further enhance researcher networks inside and outside Japan via the WCDRR. For example, the WCDRR preparation room has a function for transmitting information from all over IRIDeS, and the International Regional Cooperation Office plays a large part in doing so. We will also transmit the research results of the Michinoku Shinrokuden, which was constructed by the Disaster Digital Archive based on linking with government, industry, and academia, such as Harvard University.



Professor **Takeshi Sato**
Disaster Information Management and Public Collaboration Division
Disaster Reconstruction design & Management

02 Message

From local government to IRIDeS

Messages for the conference from local governments that have collaboration agreements with IRIDeS.

Rikuzentakata city

We entered a collaboration agreement with IRIDeS in February 2014. In Rikuzentakata city, we conduct reconstruction based on the concept of "built-in concept of "normalization" in town planning." At the conference, we will hold a public forum on this concept on March 16th. We plan on making presentations utilizing the advice received from professors at IRIDeS, also for the purpose of reliving the lessons learned from the earthquake. (Mr. Kubota, Vice Mayor of Rikuzentakata City)



The miraculous pine tree, which will be visited by many people.

Advice from IRIDeS for a richer forum



The community hall scheduled for completion in March.

Sendai city

Assisting the preparations for the disaster conference is the biggest responsibility of Sendai city. IRIDeS is an extremely dependable partner for us. I want to closely cooperate with them to expand our activities and lead the conference to success. We have also received advice on public forums and event programs. I want to deploy rich programs that will give citizens an opportunity to think about disaster risk reduction again. (The Local Preparation Office of the Third World Conference on Disaster Risk Reduction, City of Sendai)



The hall at the international center where the main conference will be held.

Coordinating steps for a successful main conference



The stylish international center surrounded by nature.

Tagajo city

We have been involved with producing and operating the "Tagajo Kenbunroku" and distributing "Disaster prevention notebooks for all." In regards to the conference, we will hold the "Citizen Conference for Disaster Reduction." As an opportunity for disaster reduction and passing down knowledge, we will conduct town walks to check tsunami height indicators and experience evacuations. Even after the conference is over, I hope we can continue collaborative activities so that awareness on disaster reduction can be handed down to our children and grandchildren to achieve a city with reduced disaster risks. (Mayor's office, Tagajo City)



The first public disaster housing in the city. Enables people to evacuate to the roof.

Hoping for positive activities to link disaster areas with the conference



Tagajo high school students installing tsunami height indicators.

Feature-1

Rigorous testing and surveys to tackle disaster-related infectious diseases

“A system for understanding diagnoses and the situation of epidemics in areas with different culture and medical systems.”



●Ward visitation at the University of KwaZulu-Natal in South Africa

Prof. Hattori visited KwaZulu-Natal in May 2008 to conduct joint research with Professor Kodama (center), who specializes in medical engineering. He was introduced to the serious disease ward by head of medicine Strum(second from right), who reported the infection outbreak of extensively-drug-resistant tuberculosis.

Professor
Toshio Hattori

Disaster Medical Science
Division Disaster-related
Infectious Disease

Completed his degree in internal medicine at the Graduate School of Medicine at Kyoto University. Joined to study hematology, but upon discovering that leukemia is a retrovirus that causes cancer in humans, also started research into AIDS, which is a similar virus. Assumed his current position after working with emerging infectious diseases at the Tohoku University School of Medicine. Also conducts research on tropical infectious diseases, focusing on AIDS and tuberculosis.



Differences in culture and awareness lead to epidemics

There are many infectious diseases around us, such as Ebola hemorrhagic fever, dengue fever, and influenza.

Professor Hattori is an expert in this field, having researched infectious disease since he was a graduate student. He researches sub-Saharan Africa, and was studying AIDS and tuberculosis. He is currently focusing his research on infectious disease from the perspective of disasters.

"Disaster-related infectious diseases can be broadly divided into two categories. On one hand, there are cases where an infectious disease itself becomes a disaster because it brings the death of many people and causes chaos in society. The Ebola hemorrhagic fever is an example of this." Ebola hemorrhagic fever is an infectious disease spread by contact with blood or other bodily fluids. It has a low rate of infection if the proper knowledge and equipment is available, but it spread explosively in Africa, which does not have an adequate medical system. "Some countries do not even have enough hospitals. In some areas in Africa, people go to visit a healer when they are sick. Many people gather around a healer, which then becomes a new source of infection. There were recently reports of popular healers dying."

Leptospirosis, a disaster-related disease feared to become epidemic

"Infectious diseases are a disaster that can occur in any country, regardless of its culture. It is important to respond to them with the correct knowledge."

Prof. Hattori conducted a survey in the Philippines and Indonesia in 2014, and studied the difference in awareness about infectious diseases in both countries. He found that their methods of responding to and perceiving infection diseases were completely different.

"Whether an infectious disease spreads explosively and becomes a disaster or not depends on the response of society as a whole. I believe it is necessary to rigorously survey why epidemics occur in some regions, and conduct careful monitoring."

Another category of disaster-related infectious diseases is those that occur after a disaster. There are various kinds of infectious diseases, but Prof. Hattori is currently researching one called leptospirosis. "In the Philippines, epidemics of leptospirosis are confirmed every time a flood occurs. Since this bacteria is found in the urine of rats, etc., epidemics can be avoided by improving sanitation. However, I am concerned that accurate surveys of leptospirosis epidemics are not being carried out."

Supporting accurate diagnosis by developing testing kits

With the spread of globalization, epidemics in countries far away from Japan are not irrelevant to us. In reality, patients with dengue fever were confirmed in Tokyo in 2014, which caused the closure of public parks and other disorder.

"We do not know when West Nile Virus encephalitis and Chikungunya fever might enter Japan", says Prof. Hattori.

It is hard to distinguish from other diseases that spread in South-East Asia such as Chikungunya fever and dengue fever, which are mosquito-borne infectious diseases. Therefore it is difficult to understand the spread of infectious diseases, since rigorous diagnoses are not performed in South-East Asian medical institutions without adequate testing equipment and testing systems. "I want to help create a system for understanding the situation of epidemics by developing a testing kit that can also be easily used in South-East Asia." Another important area of research is identifying the resilience factors that cause homeostasis in the human body due to the various immunity/inflammatory responses to infectious diseases. He continues his research in cooperation with local medical institutions.

Prof. Hattori has been attending hospitals especially in Manila for more than seven years to continue his joint research. His battle with infectious diseases is far from over.

Feature-2

At the forefront of conveying the practical disaster studies of IRIDeS to the world

“I want to explore a new way of facing disasters by involving companies and academic institutions.”



●APRU-IRIDeS Summer School

Participates are divided into groups to discuss about disaster prevention and reduction.

Managing
Associate Professor

Takako Izumi

Disaster Information Management and
Public Collaboration Division
International and Domestic Liaison Office

Her research focuses include international humanitarian assistance, international strategy for disaster risk reduction as well as the roles of and contributions by various stakeholders especially in Asia including NGOs, the private sector, local governments and communities to disaster risk reduction activities and programs. Completed her Ph.D at the Graduate School of Global Environmental Studies in Kyoto University. Worked with international NGO and various UN agencies such as UN-Habitat, UN Office for the Coordination of Humanitarian Affairs (UNOCHA), and UN Office of the Recovery Coordinator for Aceh and Nias.



Attitudes towards disaster risk reduction have changed

The International Regional Cooperation Office is a department established to convey the knowledge of IRIDeS to the world. It performs various activities in addition to research in order to convey the practical disaster risk reduction studies promoted by IRIDeS to the world. As a member of the Office, Prof. Izumi mainly broadens the scope of activities overseas. Before joining IRIDeS, she belonged to UNOCHA (the United Nations Office for the Coordination of Humanitarian Affairs), where she coordinated disaster relief.

"At UNOCHA, I was mainly coordinating relief efforts by governments and NGOs at disaster sites when a major disaster occurs. Local areas when a disaster occurred to connect support organizations with government institutions. I have assisted many countries, but I felt that I met the same setbacks each time. There are limits to what can be achieved by providing assistance after a disaster has occurred. That is why I decided to work with disaster prevention and reduction which prevent the damage from disasters."

That is when the Great East Japan Earthquake occurred. "I had been involved in the relief and recovery efforts for the Sumatra earthquake in 2004, and the same devastation I saw there was in my home country of Japan. Disaster risk reduction in Japan is very advanced. I was shocked to see that such damage could occur in Japan despite of this."

Multi-hazard program gathering university students of the Pacific Rim

"I thought that we might have to reconsider the concepts of disaster risk reduction we had accumulated up until now. Then I started thinking about what I could do to achieve this." Prof. Izumi joined the International Regional Cooperation Office in April 2013. Her main activity is the multi-hazard program started in cooperation with APRU (the Association of Pacific Rim Universities). One of the main activities of this is the "APRU-IRIDeS Summer School." University students from Pacific Rim countries such as the United States, China, Australia, and Malaysia gather for four days to learn knowledge related to disaster risk reduction and perform group discussions and field work.

"Since the Pacific Rim is an area where many disasters occur, the students are serious in their activities. In the field work, they can visit disaster areas that are currently under reconstruction to learn from their experiences. I believe that it is very meaningful for the students to be able to directly see the reconstruction process from the 2011 Tohoku Disaster, which is proceeding systematically with concrete planning. I hope the students can take home what they have thought about and learned in the summer school, and use it in disaster risk reduction research in their countries."

Fields that link various companies with disaster risk reduction

One of the research themes of Prof. Izumi is the role of companies and universities in disaster risk reduction. She is currently focusing on creating fields that enable regular companies, particular in Asian countries, to become involved in disaster risk reduction. She has also surveyed the participation of companies in disaster risk reduction activities in places such as Indonesia, Malaysia, and Bangladesh. "I hope that the original technology and knowledge of companies can be utilized in disaster risk reduction. It is difficult for companies to participate in the fields of disaster risk reduction without some kind of reason or incentive, but there are actually many examples of disaster risk reduction turning into business." There is more than one way for companies to be involved in disaster risk reduction. In developing countries in particular, companies need to participate in and contribute to development, in addition to disaster risk reduction. There are many model cases where social contribution and expansion of business chances can be realized at the same time.

Companies and academic institutions in disaster areas, such as IRIDeS, have a lot of knowledge. This knowledge must be widely disseminated to the world. "The efforts of IRIDeS are attracting attention throughout the world. I want to continue thinking about how we can open our doors to make the knowledge of IRIDeS useful, and what actions will be required to do so."

News & Topics

1 Research Result

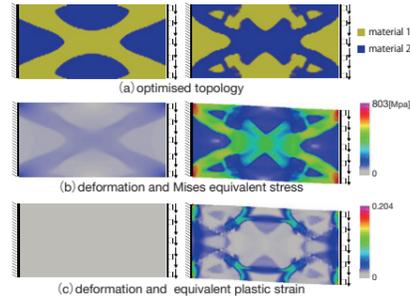
Devising a theory for seeking the optimal shape of structures resilient to earthquakes

Used for easily calculating tough structures and developing new materials

Assistant Professor Junji Kato of Regional Safety Engineering published a new optimization theory in his thesis entitled "Accuracy Validation of Analytic Sensitivity in Topology Optimization for Elastoplastic Composites." This theory enables the optimal shape to be easily found when designing structures resilient to earthquakes. For example, when designing bridges and buildings, the overall shape is determined by the experience and construction record of the designers and workers. However, the method devised by Prof. Kato enables the most robust structure to be achieved with a minimal amount of materials. Furthermore, research is being conducted to utilize this theory when designing extremely small things such as the microstructure of

materials, rather than large things such as bridges and buildings. The microstructure of materials is an important factor related to strength and toughness. By optimizing the microstructure, large structures can also be made resilient. "If the microstructure of materials can be created based on this theory in the future, we can expect those materials to be utilized in many fields," says Prof. Kato. "The optimization theory I published is not something that will be of immediate use in the field, but construction of a theory that can be easily used by designers will be required in the future. If this theory can be applied to existing knowledge and heuristics, I believe it can address design problems according to social needs such as resources, energy and other environmental problems." Prof. Kato's theory may become the base of future towns, but long-term research is required.

● Structure optimization simulation



This diagram indicates a simulation of applying force to materials made from a combination of raw materials with different strength. The combination of materials with a raised pattern has the highest toughness.

Assistant Professor
Junji Kato
Regional and Urban Reconstruction Research Division
Regional Safety Engineering



2 Research Result

Collecting microtremor observation data during non-emergency times to evaluate story damage in super high-rise buildings

Research for high-precision structural health monitoring

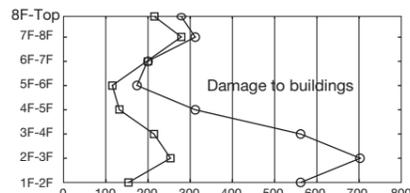
The research of Assistant Professor Wang Xin is "extracting shear-wave velocity of super high-rise building and application to structural health monitoring." This research enables people to understand how much each story of a super high-rise building has been damaged during non-emergency times and after an earthquake has occurred.

Currently, evaluations on the safety of buildings that have been damaged are performed with a method that diagnoses the damage to the entire building. However, in super high-rise buildings where propagations of vibrations are complex and damage patterns are varied, it is currently difficult to adequately evaluate the entire structure. If the research of Prof. Wang is implemented, at least two sets of seismometers would be installed in a building to check the status of

damage on each story simply by mobile observation.

With the method that Prof. Wang is researching, it is essential to observe the buildings during non-emergency times. When doing so, small vibrations called "microtremors" caused by the wind, etc. hinder high-precision observations. Prof. Wang continues to conduct research that will enable these microtremors to be observed and collected to perform health monitoring of each story of a building in a fast and highly precise manner. "If we can perform high-precision health monitoring, we will know whether the method I am trying to implement is effective. I want to perform a wide range of tests to collect information," says Prof. Wang. This important research is being conducted to enable quick damage evaluation both during non-emergency times and after a disaster occurs, to enable safe and secure cities to be created.

● Graph indicating the damage and propagations of earthquake tremors of buildings damaged in the earthquake



An evaluation of the damage to each story of a building damaged in the Great East Japan Earthquake in 2011. The correlation between the propagation of tremors and damage to the building can be seen.

Assistant Professor
Wang Xin
Hazard and Risk Evaluation Research Division
Earthquake Engineering



Researcher Introduction

The leading person that developed space weather forecasts

"Before coming to Tohoku University, I was involved in research for observing space storms at JAXA (the Japan Aerospace Exploration Agency). Storms in space are actually radiation particles radiated from the sun. These radiation particles are hazardous to satellites, space stations, and astronauts. In a manner of speaking, they are space disasters. In a recent instance, a big disaster occurred in October 2003. There was an extremely large explosion in the sun, and a large amount of radiation particles were released. These radiation particles affected about one third of satellites, and caused some to fail. I have spent

half of my life as a researcher developing space weather forecasts to predict such disasters. I have researched the knowledge required for replicating outer space on a computer and performing simulations that incorporate satellite information. Now the system gathers information from a large number of satellites and can make detailed forecasts like AMEDAS (Automated Meteorological Data Acquisition System). Space is very interesting, and I want to keep being involved with it."

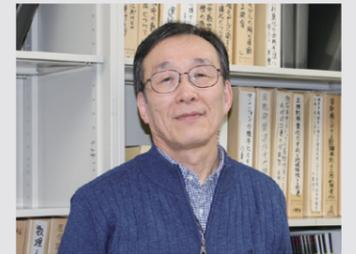


Professor
Takahiro Obara
Disaster Science Division
Space Environment Disaster Research

Useful Data for Urban Redevelopment

"I joined the (former) Ministry of Construction in 1974. In a time with rising land prices and rapid housing construction, I was involved in formulating five year regional plans for housing construction. My job involved using statistical data such as population, family structure, rent, and household income to plan how much housing would need to be constructed, but I realized that methods for analyzing and predicting and the required data for planning were underdeveloped. Solid plans require solid data and methods of analysis and prediction. I thought that someone would have to attend

closely to this research. After that, I moved to the (former) National Land Agency, and then to the (former) Building Research Institute of the Ministry of Construction. I was able to deepen the required research I thought. I am currently conducting research into estimating what kind of people live in places where a disaster has occurred or may occur in the future, based on past national censuses. In the future I would like to expand my range to cover the entire country and prepare data that can be utilized locally."



Professor
Koichi Ishizaka
Regional and Urban Reconstruction Research Division
Planning Technology for Urban Revitalization

Emergency interview

Landslide disaster in Hiroshima on August 20th, 2014

Understanding the risk of landslide disasters based on hazard maps

"When the landslide occurred in Hiroshima, more than 200mm of rain fell in three hours. Torrential rains that occur in a short period of time cannot always be predicted with modern science. Government responses need to be improved but it is also important for people to regularly think about how they and their family will act in the event of a disaster. I recommend that people check the situation around their house by referring to landslide hazard maps, etc. provided by local government."



Associate Professor
Shuji Moriguchi
Regional and Urban Reconstruction Research Division
Regional Safety Engineering

Eruption of Mt. Ontake on September 27th, 2014

A transmission system for emergency information to stop the tragedy

"Mt. Ontake eruption attacked some visitors near the crater. Many people expect a solid observational network and predictions, but generally it is difficult to predict volcanic activities. High priority things is the construction of transmission system for emergency information without the prediction of volcanic activity and the education for understanding volcanic emergency information. At Mt. Ontake, activity was observed 10 minutes before the eruption, and some visitors might have been able to evacuate if they received that information."



Lecturer
Miwa Kuri
Education Research Center on Science for Global Safety, Leading Graduate School