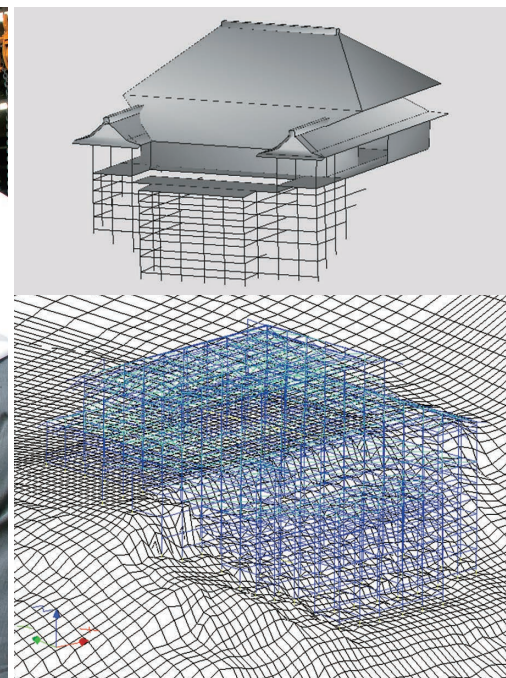
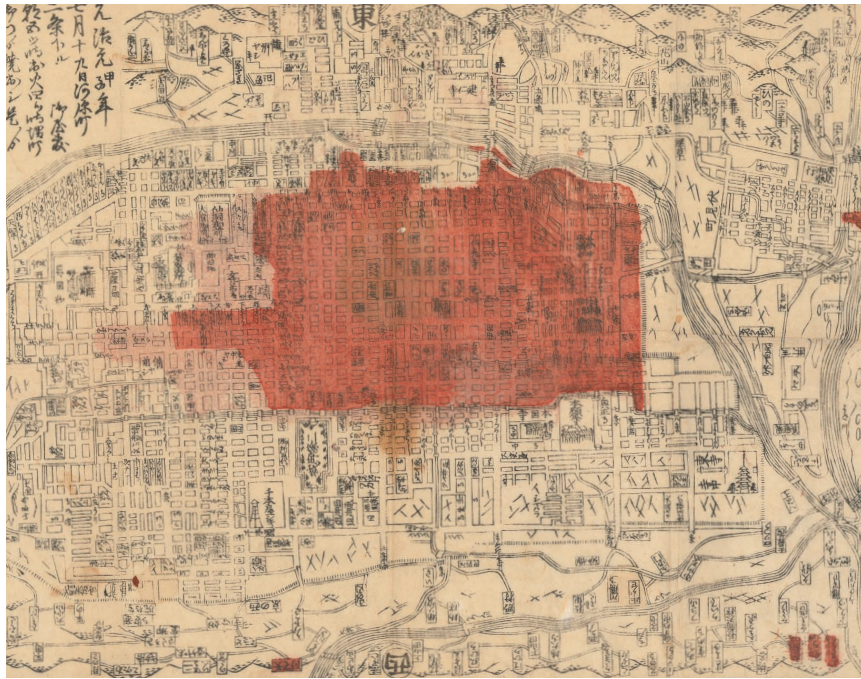


Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University



Many cultural heritage sites around the world are exposed to the risk of disasters



Temple damaged by tsunami
(Year: 2011, Choonji, Hitashi matsushima City, Miyagi Prefecture)



Collapsed roof of temple due to earthquake
(Year: 2016, Mashiki Town, Kumamoto Prefecture)



Medieval township destroyed by earthquake
(Year: 2016, Amatrice, Italy)



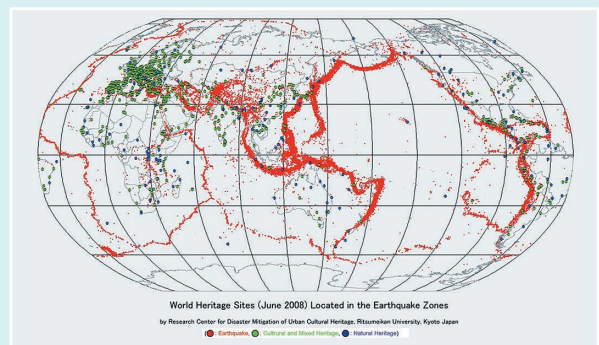
Temple submerged in flood water
(Year: 2011, Ayutthaya, Thailand, Courtesy: Tourism Authority of Thailand)

Many of the world heritage sites are located in earthquake-prone zones, such as the Pacific Rim and the Himalayan orogenic belt.

The conservation of cultural heritage and the historic cities surrounding them is an important global issue.

Source

Kanefusa Masuda, Minsuk Kim, Mendoza Shimada Olga Keiko, Naoko Itaya, Myungsun Yi
"Importance of international recognition on the risk of world cultural heritage sites located in earthquake zones"
Journal of Disaster Mitigation for Historical Cities Vol.3 (June 2009)



Distribution map showing world heritage sites and earthquake zones (2008)
● Earthquake, ● Cultural heritage and mixed heritage, ● Natural heritage

Our Mission

■ Research on disaster mitigation for urban cultural heritage

Cultural heritage rooted in the community and the historical cities surrounding them are the result of human cultural activities spanning over a long period of time. Once lost, they cannot be recreated again. Thus, it is the duty of today's society to conserve the cultural values inherited from their ancestors, protect them along with human lives from the threat of disasters, and pass them on to the next generation.

In order to work towards disaster prevention and mitigation without losing the original essence of cultural heritage and the associated historical cities, it is necessary to activate the local community and traditional regional resources and integrate the fields of cultural conservation in social sciences with those of engineering for the protection of human society from disasters. So far, these issues have been dealt with separately in their own ways. We intend to create a platform for both domestic and international research projects in collaborating with various research organizations such as the Art Research Center, Ritsumeikan University that makes the best use of information technology archiving cultural materials.

■ Creating a Center of Excellence

The Research Center for Disaster Mitigation of Urban Cultural Heritage, Ritsumeikan University was set up in 2003 with Kyoto, Shiga and Osaka as the base because of their rich repository of cultural heritage. Since then, we have been engaged in research activities that combine humanities and science while acquiring external funding, including the 21st Century COE Program and the Global COE Program from the Ministry of Education, Culture, Sports, Science and Technology (MEXT). In October 2006, when the UNESCO Chair was set up at our center, we started the international training program and began to serve as a network hub for international researchers dealing with cultural heritage and disaster mitigation. In order to continually proceed our activities, we set up the "Institute of Disaster Mitigation for Urban Cultural Heritage" in April 2013 to create a center of excellence for education and research aimed at providing various measures that contribute to the development of cultural and safe societies, both within the country and around the world.

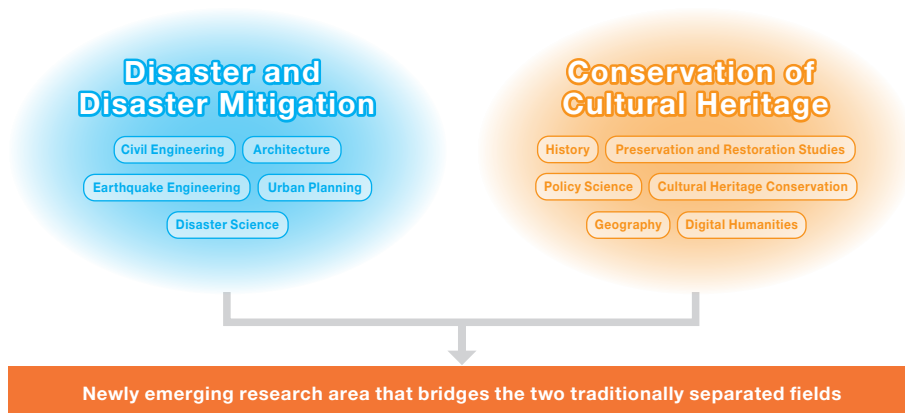
■ Contributing to the society through research and education

We collaborate with industrial sectors to develop new technologies while continuing to learn from traditional knowledge, promoting the development of disaster mitigation plans for historical towns and cultural heritage together with local communities, government and non-profit organizations. We also engage in actual field studies by leveraging the industry-government-academia network for risk management of such as World Cultural Heritage sites in collaboration with NGO's and international organizations, including UNESCO, ICCROM and ICOMOS-ICORP. We intend to create an education and research environment in order to make practical contributions to the societies by promoting "Cultural Heritage Disaster Mitigation Studies," researching history and traditions to carry forward cultural values, acquiring disaster mitigation technologies that can be applied to the field, and producing work-ready practitioners and young researchers who will take charge of the new research developments.

We sincerely wish for your continued supports and cooperation.

Director, Institute of Disaster Mitigation for Urban Cultural Heritage
Takeyuki Okubo

Global Center of Excellence for Education, Research and Development of Strategy on Disaster Mitigation of Cultural Heritage and Historic Cities



Featured Research

■ Learning from the history of disasters and communities

By collecting historical materials related to past disasters and social responses to them, creating a "Memory map" of local community based on qualitative surveys, and developing a space-time GIS to understand the various aspects of historical disasters, we explore the history of disasters in historical and cultural cities to learn more about the regional knowledge readily available for disaster reduction initiatives in the future.



Safety and Security 3D Map of the Historical City Kyoto

■ Develop disaster mitigation technologies of historic and cultural cities

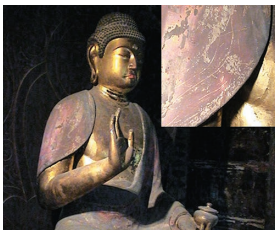
By developing seismic design and seismic retrofitting technologies, and fire protection systems with advantages of traditional wisdom, regional history and culture, and also proposing disaster mitigation countermeasures of historic and cultural regions by assessing geo-environments, we aim to establish new disaster mitigation technologies of historic and cultural cities uniting both "historic, cultural and design values" and "disaster mitigating performance".



Full-scale earthquake testbed of a traditional wooden house of two stories with an attached upper unit (2012, E-defence)

■ Preventing damage of cultural heritage sites from human and animal made disasters

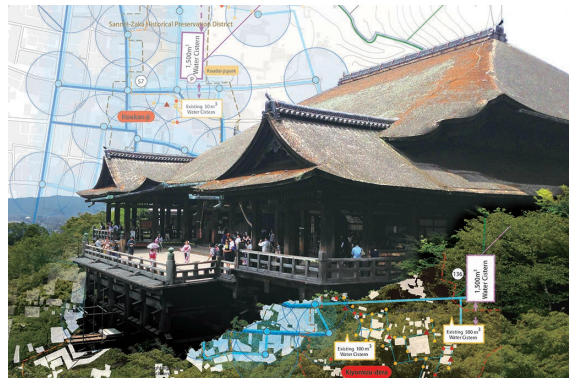
We systematically investigate damages to cultural heritage caused by human and animal activities including criminal acts, such as theft of traditional artifacts and arson of historical buildings, and invasion of raccoons into the temples and shrines. Further, we develop effective counter measures including action planning guidelines and hi-functioning protection systems to safeguard the cultural heritage site from the human and animal made disasters.



Scratch marks made by raccoon (Photo courtesy: Kansai Wildlife Research Association)

■ Designing disaster mitigation for historic cultural cities

We aim to make local disaster mitigation plans in historical zones and policies to effectively implement them. We contribute to designing the future of historical environments and communities through practical applications of analyzing the local characteristics and making the best use of the cutting-edge technology of disaster mitigation in the fields.



Schematic diagram of the disaster prevention water supply system of Kiyomizu-dera Temple and surrounding areas (Photo courtesy: Kiyomizu-dera Temple)

■ Contributing to the international community

Through the UNESCO Chair Programme on Cultural Heritage and Risk Management, International Training Course (ITC) and research network, we are carrying out research and development of educational programs to enhance the capacity of disaster risk management for cultural heritage in developing countries, and promoting studies and field researches on disasters affecting cultural heritage in the international field.



Building material restoration work at Patan Royal Palace Complex (Year: 2015, Kathmandu, Nepal)

Characteristic Activities

For Academic Fields

Research exchange activities

① Publishing

Organization of "Symposium on Disaster Mitigation of Cultural Heritage and Historical Cities" as an annual project and publishing of the academic journals "Journal of Disaster Mitigation for Historical Cities," "Kyoto Historical Disaster Research" and "Annual Report" every year.

② Dissemination of information on our website

We share information about our research activities, research results and publications in our website.

③ Collaboration with other educational research institutes

We develop interdisciplinary research activities in order to promote the process of inheritance, preservation, maintenance, utilization, and management of cultural heritage in collaboration with other research institutions, such as Art Research Center, Ritsumeikan University, that are actively engaged in analyzing the Japanese culture using digital technology and pursuing new studies in Humanities.

For Domestic Societies

Education in the country

① Publication of textbooks and lectures related to "Cultural Heritage and Disaster Mitigation"

We provide lectures on "Conservation and Succession of Cultural Heritages," "Historical Disasters" "Disaster Mitigation Planning for Cultural Heritage" and "Protection of Cultural Heritage from Disasters," and published textbook titled "Cultural Heritage Disaster Mitigation Studies" which is a compilation of these resources.

② Management of the academic program on "Cultural Heritage Disaster Mitigation Studies"

This course is provided as a multidisciplinary program under a credit system in which graduate students can also participate. We provide various opportunities to learn "Cultural Heritage Disaster Mitigation Studies" to the public, Ritsumeikan students, other universities students and adult students with business experience, in order to contribute to the expansion and development of the existing academic field.

For International Societies

International education and support

① Conducting the UNESCO Chair Programme on Cultural Heritage and Risk Management, International Training Course (ITC) on Disaster Risk Management of Cultural Heritage, Ritsumeikan University

We have been authorized as the world's first UNESCO Chair in the field of cultural heritage and risk management in the year 2006. This UNESCO initiative aimed at promoting international networking cooperation based on exchange of knowledge across the borders and research outcomes. We have more than 100 certified participants over the course of 10 years. We are continuing this training activity, and our goal is to produce around 10 graduates every year through this training.

② Supporting Developing Countries' Education on Cultural Heritage Disaster Mitigation

As part of the Indonesian government training, we invite local government officials and conduct training through lessons and best practices in urban and community planning in Kyoto, Osaka and Shiga for three weeks by lectures, discussions, and field surveys.

For Local Community

Practical supports to local societies

① Collaborating with local societies

We collaborate with voluntary disaster mitigation organizations run by local communities or with civic organizations, such as "TOMORROW'S KYOTO Cultural Heritage Platform" for safer historical communities.

② The "Children's Map Contest for Community Safety"

We have been organizing the annual map contest since 2007 in which elementary school students survey familiar areas, such as the surroundings of their house and school, and put this information on the map, giving them a chance to think about the safety and security of their community and share this information with their parents and others of the school. This event has received favorable reviews in the country. A special jury award was given to the most outstanding work of our contest in the "Exhibition of the Excellent Mapping Works by Primary and Secondary School Children," organized by the Geospatial Information Authority of Japan, the Ministry of Land, Infrastructure, Transport and Tourism.

■ The four main activities

Research

- Developing various research projects based on the achievement of the two former COE programs
- Annually publishing *Journal of Disaster Mitigation for Historical Cities* by assembling research articles submitted to the *Symposium on Disaster Mitigation of Cultural Heritage and Historical Cities*

Education

- Providing training courses for young researchers, such as the Academic Program on Cultural Heritage and Disaster Mitigation for graduate students
- Training researchers with practical situations through specialized courses, such as UNESCO Chair International Training Program

Collaboration with society

- Promoting projects in collaboration with society, such as the Children's Map Contest for Community Safety
- Supporting national and local agencies for disaster mitigation projects on cultural heritage in Japan and foreign countries

Collecting and disseminating information

- Collecting and archiving historical materials and geographical information relevant to research projects
- Exhibiting the collected materials related to historical disasters and outcomes of research projects to the general public using the exhibition space



Institute building



Exhibition Room ... We regularly hold various exhibitions at the "Exhibition Room" spread over an area of 112 m².

History

Apr.	2003	21st century COE program adopted (Until 2007)
Aug.	2003	Research Center for Disaster Mitigation of Urban Cultural Heritage established
Apr.	2004	Kakuchi Elementary School Center established
Jan.	2005	UN World Conference on Natural Disaster Reduction (Kobe) in-charge of secretariat for themes and open forum
Apr.	2005	The Academic Frontier Promotion Program adopted (Until 2009)
Mar.	2006	Research Center for Disaster Mitigation of Urban Cultural Heritage constructed
Jun.	2006	Symposium on Disaster Mitigation of Cultural Heritage and Historical Cities started (Annual Project)
Oct.	2006	UNESCO Chair Programme on Cultural Heritage and Risk Management, International Training Course (ITC) on Disaster Risk Management of Cultural Heritage started (Annual Project)
Sep.	2007	Children's Map Contest for Community Safety started (Annual Project)
Apr.	2008	Global COE Program adopted (Until 2012)
May	2009	Ideas Competition for Strategy on Disaster Mitigation of Cultural Heritage and Historic Cities started (Until 2012)
Apr.	2013	Reorganized as Institute of Disaster Mitigation for Urban Cultural Heritage
Apr.	2014	Started a support by Toyota Foundation for International Training Course (ITC) (Until 2016)
Mar.	2015	UN World Conference on Natural Disaster Reduction (Sendai) hosted a public forum

Organization

Director	Takeyuki OKUBO (Professor, College of Science and Engineering, Ritsumeikan University)
Deputy Director	Yoshiyuki SUZUKI (Professor, Kinugasa Research Organization, Ritsumeikan University) Kazumasa HANAOKA (Associate Professor, College of Letters, Ritsumeikan University)



Underground Conference Hall ... We conduct training and research meetings in the Underground Conference Hall spread over an area of approximately 115 m².

Access map



Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University

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Cover page annotation

- [Top left] Fire hydrant at Kiyomizu area (Project of Kyoto City)
- [Top right] Kwaraban (Commercial news sheets of the Edo period) of the Great fire of Kyoto (1864)
- [Bottom left] The UNESCO Chair Programme on Cultural Heritage and Risk Management, International Training Course (ITC) on Disaster Risk Management of Cultural Heritage Ritsumeikan University in progress
- [Bottom right] Structural analysis of Kiyomizu-dera Temple