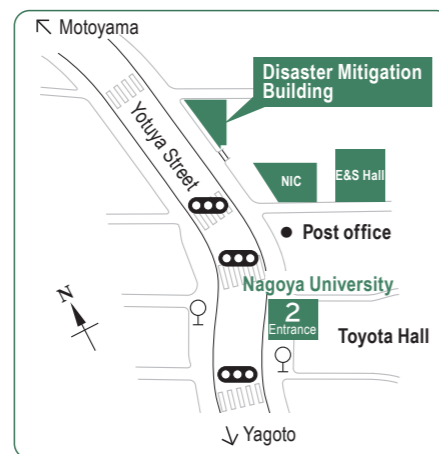




Disaster Mitigation Research Center



Disaster Mitigation Research Center,
Nagoya University

Furo-cho, Chikusa-ku, Nagoya 464-8601
HP: <http://www.gensai.nagoya-u.ac.jp/>



Greetings

Center Director

Nobuo Fukuwa



Amid concerns that a Nankai Trough mega-earthquake and another Isewan Typhoon are imminent in the Tokai region, our university must, as a core university situated in the region, play a leading role in establishing disaster mitigation measures. This center was established in December 2010 against this backdrop. Initially, 30 professors from existing graduate schools also served as professors for the center. With the deployment of six permanent professors in January 2012, the center was officially established. In addition, in April 2012, three additional divisions were established as a result of a donation of industry the center received, thereby consolidating the foundation for promoting industry-academia collaborative research. In April 2014, four additional research professors were assigned. Currently, 19 professors and 29 affiliate professors belong to the center.

In July 2012, the Disaster Prevention and Mitigation College was established; this human resource development program involves collaboration between industry, government, and academia. On March 3, 2013, the Tokai Disaster Mitigation Research Consortium was established by the disaster prevention research centers of six national universities in the Tokai region. With this development, fully-fledged inter-university collaboration began. Further, our university concluded agreements and memorandums with the Chubu Regional Development Bureau, the Disaster Prevention Office of Aichi Prefecture, the Disaster Prevention Office of Nagoya City, nine cities and one town of the West Mikawa area, the Nagoya Urban Institute, and the National Research Institute for Earth Science and Disaster Prevention. Moreover, our university joined a program of broad area collaboration with municipalities in each area of Aichi Prefecture as well as cooperation with industry. Thus, collaborative efforts between industry, government, the public sector, and the university have continued to develop.

On the research front, collaboration between different research fields has advanced as a result of implementing new large-scale projects. These include a research project focusing on compound disaster mitigation on the great earthquakes and tsunamis around the Nankai Trough region; the Tokai disaster mitigation project, in which the abilities of various universities are aggregated in an effort to tackle the threat of a Nankai Trough mega-earthquake; and the Cross-Ministerial Strategic Innovation Promotion Program, which involves establishing a Disaster Mitigation Think Tank which promotes regional cooperation and information sharing.

In March 2014, the Disaster Mitigation Research Building was established as the base for the center's activities. This building plays a role in the implementation of researches regarding disaster mitigation. In addition, as the first building to have base isolation on the Higashiyama campus, it serves as a disaster-response hub when a disaster strikes. Further, during ordinary times, the first and second floors of the building are open to the public so people can learn about disaster mitigation. Visitors can partake in many activities, including attending lectures about disaster prevention called the "Gallery Talk." The building is equipped with a range of oscillation devices, and the building itself is an experimental facility for earthquake resistance.

Twenty-five contract researchers from industry and government have joined our center. The center has gradually consolidated itself as an environment for aggregating the total ability of the region and promoting research, response, and preparedness.

Our center plans to maintain its existing activities, including organizing a range of symposiums, seminars, and other events for citizens such as the "Disaster Prevention Academy," the "Gen-Sci Café," the "Manabi-ya," and "ESPER" for engineers, NSL for joint study with the media, disaster prevention seminars for high school students, and projects to develop human resources for disaster prevention. At the same time, the center will utilize the Disaster Mitigation Research Building to explore new ways to raise awareness about the topic, thereby moving forward side by side with everyone concerned to realize a disaster resilient society.

The Disaster Mitigation Research Building —a Base for Research, Response, and Preparedness

Completed in March 2014, the Disaster Mitigation Research Building is the first building to feature a base isolation structure system on the Higashiyama campus of Nagoya University. The building provides a base for researchers involved in the Disaster Mitigation Research Center to carry out leading research on disaster mitigation, while functioning as a base for social collaboration toward disaster mitigation.

In a world-first, the underground seismic isolation devices and rooftop laboratory of the Disaster Mitigation Research Building can be used to carry out oscillation experiments that are conducted by using the entire building. In addition, an elastic base isolation structure was used for the base isolation structure devices and sufficient design margins were ensured—making this building the safest in the region against mega-earthquakes.

During ordinary times, this building serves as a base for research into disaster mitigation as well as for education and human resource development. The first floor offers various attractions: an experimental laboratory in which long-period ground motions can be simulated, an exhibition that combines detailed geographic miniatures and hazard maps,

and panel exhibitions for learning about disaster prevention and mitigation, as well as aerial photographs providing a bird's-eye view of Nagoya and its surrounding areas, miniatures for learning about earthquake resistance structures, and a handcraft area for kids. In addition, the building serves as a venue for the "Disaster Prevention Academy" and the "Gen-Sci Café". On the second floor is a library where visitors can browse a range of materials and information systems.

Once disasters occur, the building will become a base for the university and related institutions to respond to disasters and to release information. In preparation for such disasters, the building has one week's supply of water and food, large-scale private power generation devices, terminals for connection to power supply vehicles, propane-powered air-conditioning equipment, and solar power generation devices. In addition, with the aim of sharing real-time disaster information, local authority satellite communications were established with Aichi Prefecture, while a long-distance wireless LAN was established with the Chubu Regional Development Bureau.



Disaster Mitigation Research Building

The first base isolation building on the Higashiyama campus with its distinctive triangular figure the building is a facility that is designed to serve as a Base for Research, Response, and Preparedness.



Disaster Mitigation Gallery

By seeing and touching a variety of educational materials, visitors can understand the necessity of disaster mitigation, which encourages them actively take measures. In this way, the building contributes to disaster mitigation in the region. The building regularly functions as a venue for the "Disaster Prevention Academy" and the "Gen-Sci Café".



Disaster Mitigation Library for Research

The library exhibits newspaper articles, video materials, books, materials relating to historical earthquakes, hazard maps, histories of the municipalities, and other resources which have been collected for over a decade. It also provides the latest information systems for visitors to use.



Isolation Structure Gallery

The gallery displays the base isolation structure devices. This offers visitors the opportunity to learn about the technologies behind isolation structure systems and vibration control systems by seeing the actual devices. They can also learn about various seismometers and recording devices.



Environment to enable oscillation experiments using the entire building

By moving the building with a hydraulic jack, it is possible to generate free oscillation in order to conduct experiments using the entire building. In the rooftop laboratory, a range of simulation experiments can be conducted in which long-period ground motion and virtual images are synchronized.



Disaster response base

In addition to its elastic base isolation structure, which provides a high degree of safety, the building has an emergency power supply, a store of various necessities, and facilities for communication with the central and local governments.

Outline and Organization of Disaster Mitigation Research Center

Creating models to realize disaster mitigation by deepening many types of cooperation in the whole region based on advanced disaster mitigation research

Build disaster mitigation models through interdisciplinary cooperation.
Realize a safe and secure society through regional collaboration.

Creation of "Intelligence" for Disaster Mitigation

Realize interdisciplinary cooperative research and regionally integrated disaster mitigation research capitalizing on collective regional powers. Take on roles of strengthened cooperation between researchers inside/outside the University, liaisons between local communities, information transmission, and the planning, coordination and promotion of disaster mitigation research projects and regionally cooperative activities.

Expert Development

Realize human resource development projects strategically for disaster prevention that support "new communities."
→Systematized disaster prevention education and human resource development through regional cooperation.

Regional Cooperation

Promote framework building that helps implement regional cooperation. Interface research results through "visible" regional networks.

International Cooperation

Transfer the best practice of regional disaster mitigation strategy models to overseas countries, so that such disaster mitigation strategies will develop in Asia.

Organization

Promoting advanced research into disaster mitigation and conducting research in collaboration with industry
In order to achieve this, we have established the Social Cooperation Division and the Research Cooperation Division.

With the two pillars of the Social Cooperation Division and the Research Cooperation Division, the Disaster Mitigation Research Center at Nagoya University strives to conduct research, disseminate information, and raise awareness of disaster mitigation. It does this in cooperation with related Nagoya University departments including the Social Cooperation Promotion Meeting, the Graduate School of Environmental Studies, the Graduate School of Engineering, the Graduate School of Medicine, and the Graduate School of Education and Human Development.

The Social Cooperation Division comprises three divisions: Disaster Prevention in the Energy Supply Area Endowed Research Division (Chubu Electric Power Company), Disaster

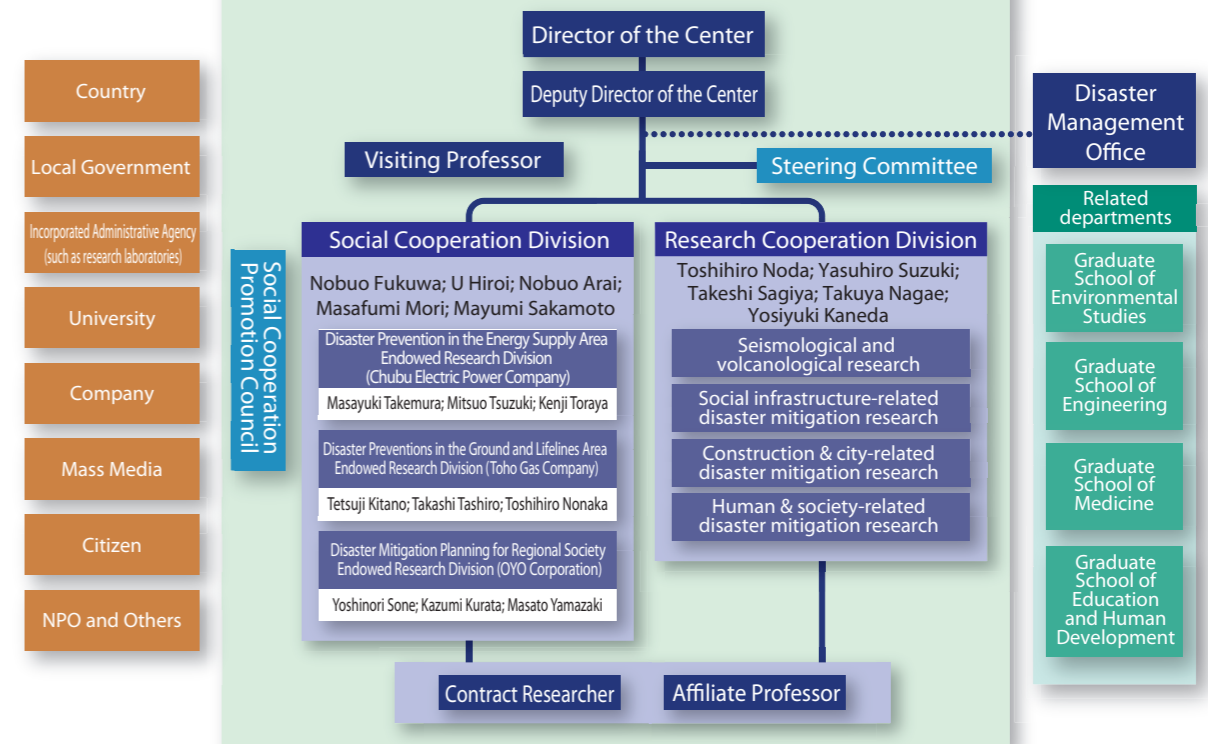


Preventions in the Ground and Lifelines Area Endowed Research Division (Toho Gas Company), and Disaster Mitigation Planning for Regional Society Endowed Research Division (OYO Corporation). Together, they contribute to human resource development from the perspective of industry and corporations to ensure safety and reassurance for the region.

The Research Cooperation Division conducts leading research into disaster mitigation, undertaking research in a diverse range of fields, from earthquakes and volcanoes, to social infrastructure construction urban planning, and society.

Through the participation of—and exchange of opinions among—public administrative bodies, citizens, mass communication organizations, and NPOs, we will be able to realize truly collaborative research that transcends the various fields of study and the entities implementing the measures.

Organization Chart of Disaster Mitigation Research Center



Disaster Management Office, Nagoya University

Toward disaster prevention for the 24,000 students and staff of Nagoya University

The Disaster Management Office of Nagoya University was established in October 2002 with the aim of maintaining the university's own disaster prevention system while enhancing disaster prevention capability at a regional level. With regard to disaster prevention within Nagoya University, the management office is responsible for the development of systems for responding to disasters, planning and implementing disaster prevention drills, maintaining the safety of buildings, and managing disaster prevention-related facilities. Through collaboration with researchers from the Graduate School of Environmental Studies and other departments of Nagoya University as well as citizens, the office is also engaged in practical research and social activities that transcend the fields of humanities and social and natural science.

Responding to the establishment of the Disaster Mitigation Research Center, the main role of the management office since fiscal 2011 has been disaster prevention within Nagoya University. The Great East Japan Earthquake inflicted damage on universities in the Tohoku area. This lesson highlights an urgent need for Nagoya University also to further strengthen its disaster prevention ability quickly. The establishment of Nagoya University's Disaster Management Headquarters in the Disaster Mitigation Research Building will enable the university to use the facilities to enhance its function as a hub for intra-university disaster predrills and lectures. The Disaster Management Office will strive to enhance the disaster prevention capability of Nagoya University, a massive organization that encompasses 24,000 people, alongside the Disaster Mitigation Research Center.

Members of Disaster Management Office: Jun Tobita; Hirofumi Kawabata; Naoko Inayoshi



Disaster Management Headquarters



Jun Tobita
Professor, Disaster Management Office, Nagoya University

Research Projects

Disaster Prevention in the Energy Supply Area Endowed Research Division (Chubu Electric Power Company)

● Research aims

In order to improve the ability to respond to disasters in terms of energy supply and enhance measures for rapid recovery in the case of earthquakes and other natural disasters, it is essential to conduct hazard assessments by examining historical earthquake damage, assess the earthquake resistance of energy supply facilities, and accurately understand the supply-demand balance in the case of disaster. Accordingly, this endowed research division will conduct research on the following themes with the aim of helping to enhance the region's disaster prevention ability through the maintenance of a safe and assured energy supply.

- 1 More accurate estimates of the scale of seismic ground motions and tsunami caused by Nankai Trough mega-earthquake
- 2 More accurate estimates of damage at energy supply facilities in the event of Nankai Trough mega-earthquake
- 3 Examination of preparatory measures for maintaining the function of facilities when disaster strikes, and measures for rapid recovery

Disaster Preventions in the Ground and Lifelines Area Endowed Research Division (Toho Gas Company)

● Research aims

Lifelines such as waterworks, sewage systems, and the power supply are essential items of social infrastructure that affect all of society. Reviews are underway regarding damage predictions and disaster prevention systems in preparation for a potential great earthquake along the Nankai Trough. Against this backdrop, our urgent challenges in the event of an earthquake are to minimize damage and facilitate rapid post-disaster recovery from the perspective of maintaining social function and economic activity. Accordingly, this endowed research division focuses on the feature that lifelines involve broad areas. It conducts research on the following individual themes with the goals of conducting assessments and developing natural disaster countermeasures that cover broad areas, realizing a regional society that is geared for disaster mitigation, and training experts.

- 1 Assessment of the earthquake resistance of lifeline facilities against seismic ground motion and tsunami caused by Nankai Trough mega-earthquake
- 2 Assessment of the impact of long-period ground motion on the occurrence of liquefaction and other damage to lifeline facilities
- 3 Development of a more accurate technique for estimating damage to lifeline facilities in the event of Nankai Trough mega-earthquake

Disaster Mitigation Planning for Regional Society Endowed Research Division (OYO Corporation)

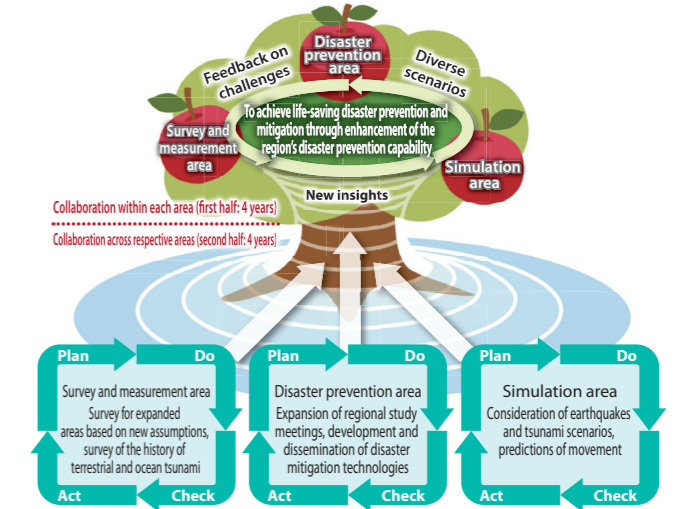
● Research aims

Over many years, this research division has accumulated physical insights, mainly regarding geophysics, as well as technologies including civil engineering and geotechnology. Using these tools, it will conduct a series of research and development activities to help facilitate regional development of disaster mitigation plans so that regional society can respond to earthquakes and complex disasters, with a focus on the Tokai area. The division's goal is to assess the predicted economic damage from imminent great disasters and develop disaster mitigation plans based on predicted economic damage from the viewpoint of the region, thoroughly learning from the bitter experience of the Great East Japan Earthquake. Accordingly, this endowed research division focuses on the following areas:

- 1 Upgrading of the ground model based on an analysis of ground and geographical data in the Tokai region and developing the technique for estimating the damage based on such model
- 2 Development of a technique for estimating economic damage from disasters based on an economic equilibrium model that considers the structure of the supply chain
- 3 Proposals for disaster mitigation measures such as effectively enhancing infrastructure, using an economic indicator

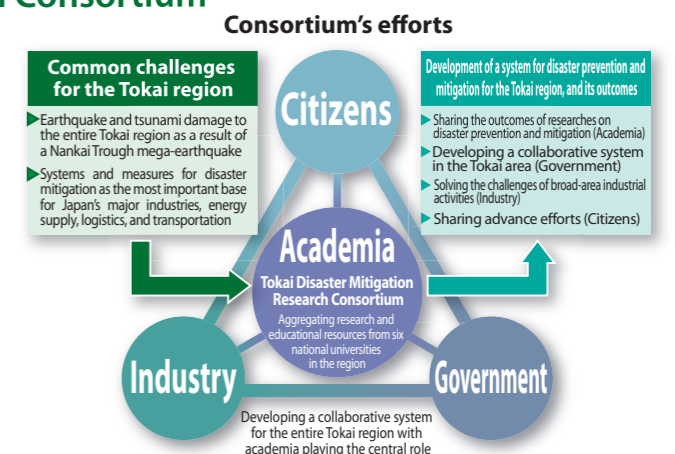
Research Project for Compound Disaster Mitigation on the Great Earthquakes and Tsunamis around the Nankai Trough Region

With the aim of reducing damage caused by a predicted Nankai Trough mega-earthquake and tsunami, this project encompasses two major tasks. These consist of understanding the mechanism behind the generation of massive tsunami, acquiring data for conducting a long-term assessment, and implementing a broad-area damage simulation for considering measures for disaster prevention and mitigation as well as restoration and recovery plans. Nagoya University was entrusted by the Ministry of Education, Culture, Sports, Science, and Technology to implement this project in collaboration with the Japan Agency for Marine-Science and Technology, the University of Tokyo, Kyoto University, Tohoku University, the National Research Institute for Earth Science and Disaster Prevention, and other organizations. The major tasks of the Disaster Mitigation Research Center in this project are to organize research on region-collaborative disaster prevention, simulate damage caused by seismic ground motion and tsunami, and develop systems for promoting measures for disaster prevention and mitigation for the region. This project started in September 2013, when a kickoff symposium was held.



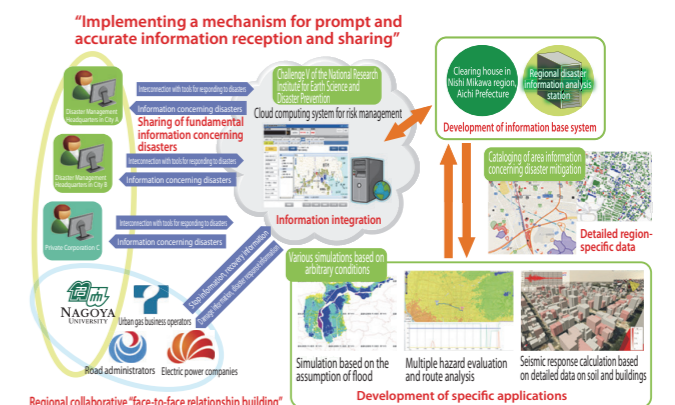
Tokai Disaster Mitigation Research Consortium

Located at the center of Japan and as the nation's largest industrial base, the Tokai region faces the risk of a Nankai Trough mega-earthquake as well as other disasters. Therefore, developing effective strategies for disaster prevention and mitigation is a nationally important and urgent challenge. This Consortium was established with the aim of aggressively implementing research into reducing the impact of natural disasters in order to realize safe and assured regional societies. It is a collaborative effort involving six universities in the Tokai region—namely Gifu University, Shizuoka University, Nagoya University, the Nagoya Institute of Technology, Toyohashi University of Technology, and Mie University.



Region-based disaster mitigation think-tank based on regional collaboration and information-sharing

The Cross-ministerial Strategic Innovation Promotion Program (SIP) launched by the Cabinet Office of the Government of Japan cites "Enhancement of the Resilience of Disaster Prevention and Mitigation Functions" as its R&D challenge. We have thus implemented this project with the goal of meeting this challenge. In order to establish a region-based disaster mitigation think-tank based on regional collaboration and information-sharing, we have been engaged in the following two matters: First, we have been working to enhance cooperation and collaboration among adjacent municipalities and industries within the region; second, we have been working on the development of disaster mitigation information systems designed to encourage voluntary disaster mitigation actions and facilitate prompt disaster recovery, such as regional disaster information analysis stations. In addition to this work, we serve as a core institution in the collation and integration of various disaster information systems and applications developed in projects undertaken by other institutions. We extract the essence and expertise generated through these projects and then study approaches for widely disseminating such knowledge to other regions.



Disaster Mitigation Renaissance through improved regional capabilities

Every year, a single municipality is chosen and designated as a model area from among municipalities in Aichi Prefecture that have populations of 100,000 or fewer (a total of five municipalities chosen in five years). All of the designated municipalities differ from one another in terms of geography, geology, past experience of natural disasters, natural disaster risk level, industrial structure, and historical background. In the model areas, documents are collected concerning regional history and geography, the population's ability to respond to disasters, and information on disaster prevention and mitigation based on the latest

scientific and technological research concerning seismic disaster prevention. Using these documents, workshops are held by municipal office staff, regional companies, and residents to pave the way toward implementation of appropriate disaster prevention and mitigation countermeasures. After the completion of this project, we will aim to apply and widely extend this study's results to other municipalities that have geographical characteristics that are similar to those of the five model municipalities. (Business subcontracted by the Ministry of Education, Culture, Sports, Science and Technology "Project for the study on support of local disaster-damage prevention measure")

Establishment of planning methods to realize the creation of resilient urban areas

To create resilient cities, our challenges are to ensure a long-term perspective, consider multiple hazards and risks, and establish planning concepts that take into account the scale of the urban area. The aims of this study project are twofold: The first is to hold workshops of various sizes covering broad areas and districts in order to establish planning methods. The second is to review the role of stakeholders in terms of clearly defining the requirements that a resilient community must satisfy and identifying the essential

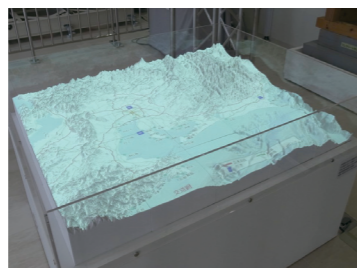
social systems. We will place greater emphasis on gathering major stakeholders to develop suggestions regarding the future organization of regions and industries in the Chukyo area (the metropolitan area that is centered on the city of Nagoya in Aichi Prefecture) as well as the wider region, with the goal of developing planning guides that are in line with the actual state of each region and which can be adjusted for wider areas. (R&D Focus Area "Creating Community-based Robust and Resilient Society")

Research and development for educational materials on disaster prevention

The center is continuing development of the "Bururu" series of educational materials that allow experience-based learning regarding earthquake-related oscillation and disaster prevention. The "Jiban Bururu," is a miniature that can express resonance in the ground and buildings. The center has also developed "Pinocchio Bururu," a miniature of a wooden house that demonstrates how a house collapses against ground motion. This can be assembled quickly and easily, enabling repeated experiments. When the Great East Japan Earthquake struck, the major issues were the shaking and indoor damage in high-rise buildings as a result of the long-period ground motion. A bi-directional long-stroke oscillation stand, BiCURI (Bi-directional shaker and Computed Ultra-Response Integration environment) can reproduce the shaking of a high-rise building—conventional devices have not been able to reproduce. It also enables authentic simulation of long-period ground motion by displaying images of the inside of a building during an earthquake, synchronizing the images with the motion of the shaking stand. Completed in March 2014, the Disaster Mitigation Research Building has an oscillation laboratory on the rooftop. This laboratory shakes the entire room according to any given waveform. Images of the inside of the building cast by four projectors, as well as sounds, are synchronized with the motions of the room, allowing visitors to experience the shaking with all five senses. In addition, the Disaster Mitigation Research Building has installed "3D Visualize," a detailed white miniature of the landscape, onto which hazard maps and other images can be projected. This exhibit helps

increase visitors' cognition regarding disaster risks.

In addition to these devices and exhibits, the center is also developing other effective, easy-to-use educational materials for raising awareness regarding disaster prevention. The center is also making efforts toward the development of educational materials aimed at dissemination and promotion of disaster prevention. One is "MAGIC Bururu," with which visitors can easily view ground conditions together with hazard maps by layering cards created through lenticular printing such that the printed patterns change depending on the viewing angle. Other examples of such materials include booklets "The story of the Sujikai Family" and "The story of the Takai Family," which contain scenarios that any family might experience when earthquake strikes and other hints on disaster prevention, as well as an application called "escape," which gives users a simulated experience of a disaster. This application can be also played on the internet.



"3D Visualize"



Bi-directional long-stroke oscillation stand, BiCURI

Education Program Development for Disaster Prevention Experts

Disaster Prevention Academies

The Disaster Mitigation Research Center holds monthly lectures related to disaster prevention for citizen who supports disaster prevention activities. At such lectures, participants can hear easy-to-understand explanations on leading disaster mitigation studies. Lectures attract as many as 100 participants each time.



Gen-Sci Café (A Learning Forum for Disaster Mitigation)

"Gen-Sci Café" is an event where teachers with various areas of expertise respond to questions from citizens about natural disasters in an easy-to-understand way through a facilitator. The monthly cafés focus on themes related to disaster prevention and mitigation. The short distance between the facilitator and guest speaker and the audience always encourages vigorous discussions.



Training programs to cultivate disaster prevention experts (tentatively named):

In December 2010, "Committee on What Should Be Done to Cultivate Disaster Prevention Experts" was set up by volunteers representing group members of "Aichi Disaster Prevention Cooperation Society Promotion Council*," reviewing education programs for disaster prevention experts. In December 2011, the Committee worked out a new draft plan for (tentatively named) "Education Training for Disaster Prevention Experts," which is scheduled to start in FY2012 as a model project. Disaster Mitigation Research Center has proactively participated in this project, and will continue to do so in the future.

Seminars on disaster prevention for high school students

These seminars target high school students with the aim of nurturing future disaster prevention leaders who will contribute to enhancing the disaster prevention abilities of schools and the region. A total of about 150 people from 30 high schools in the prefecture—several students and teachers from each school—have attended the seminars over two years. Participants initially attend four days of lectures during a summer holiday, acquiring knowledge on natural disasters and practical responses to disasters. After this, they implement their own original activities for disaster prevention promotion and implementation at their respective schools, before presenting their outcomes during the winter holiday.

Exchange meeting for disaster prevention

These seminars gather disaster prevention leaders in the Chukyo region. The disaster prevention leaders work on building collaboration to prepare effective measures during ordinary times and during times of disaster. There are also mini-symposiums in which participants hear

stories from people who are involved in regional activities for disaster prevention. Participants can bring to their own communities their learning from the seminars—insights, lessons, efforts and examples of ingenuity. In this way, they can use the connections acquired through the seminars to promote future disaster prevention measures.

Training program for developing regional human resources for disaster prevention

Many professors of Nagoya University have been involved in various regional human resource development programs organized by prefectures and municipalities, either for planning or as lecturers. Such programs include the training of disaster prevention leaders at the "Aichi Disaster Prevention College", a course for training volunteer coordinators held by Nagoya City, etc. In order to promote exchange among the participants who have completed these courses and are now actively engaged in activities in their areas, in 2011 the center held the "Exchange meeting for disaster prevention". The center plans to continue promoting such exchanges among disaster prevention human resources in the region and to build channels for information sharing.

Workshops for mass media:

In the Tokai area, in preparation for large-scale disasters caused by large earthquakes and other natural hazards, members from mass media, researchers, administrative agencies, NPOs, and infrastructure companies (operating mainly in the area) started NSL (Network for Saving Lives) in 2001 for the purpose of exchanging their opinions and information. Teachers involved in Disaster Mitigation Research Center proactively participate in the NSL workshops.

ESPER

(Extended Seminar for Professional Engineers and Researchers)

The aim of this seminar is to help young engineers from a range of fields to enhance their skills in leadership in the prevention of earthquake-caused disasters so that they can support future disaster prevention measures in the Chubu region. In addition, it aims to enhance the effectiveness of the region's abilities in terms of disaster prevention and mitigation through the promotion of face-to-face collaboration among young engineers.

Lectures for students

Teachers involved in Disaster Mitigation Research Center offer classes of "Be Ready for Imminent Earthquake Disasters" for liberal arts students, and "Comprehensive Disaster Prevention Theory I-IV" for postgraduates. In cooperation with Japan Bousaisi Organization, Disaster Mitigation Research Center provides a framework in which students who took classes of "Comprehensive Disaster Prevention Theory I-II" are granted qualifications of candidacy for disaster prevention experts.

Seminars on disaster prevention and mitigation for the students and staff of Nagoya University (Manabi-ya)

Together, the Disaster Management Office and the Disaster Mitigation Research Center run a monthly consecutive seminar called the "Manabi-ya". This seminar targets the students and staff of Nagoya University.

Introduction of Members

Nobuo Fukuwa Director of the Center / Professor



Fukuwa finished Graduate School of Engineering, Nagoya University in 1981. After working for a construction company, he came back to Nagoya University to take the posts of Associate Professor, School of Engineering in 1991, Professor, Cooperative Research Center for Advanced Science & Technology in 1997, and Professor, Graduate School of Environmental Studies in 2001. Then he took the current responsibility. His specialty is earthquake engineering for soil and structures. Doctor of Engineering. Structural design first-class registered architect.

Takeshi Sagiya Professor



Sagiya dropped out of his doctoral course at Department of Geophysics, Graduate School of Science, The University of Tokyo in 1990. After serving Geographical Information Authority of Japan, he took the post of Associate Professor, Graduate School of Environmental Studies, Nagoya University in April 2003. Professor of the same in January 2008, and then the current position. His specialty is crustal movement study. Doctor of Science.

Takuya Nagae Associate Professor



Nagae completed his doctorate at the Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology in 2002. He has served as a research scientist at multiple universities including one in the U.S. Since 2006, he has been working at the Hyogo Earthquake Engineering Research Center of the National Research Institute for Earth Science and Disaster Prevention (independent administrative corporation). Nagae has been involved in many experimental projects based on E-Defense (a 3-D full-scale earthquake shaking table). He has held his current post since September 2014. Specializes in construction of anti-seismic structures. Doctor of Engineering.

Yoshiyuki Kaneda Specially-appointed Professor



Kaneda completed a masters majoring in geophysics at the Graduate School of Science, at the University of Tokyo in 1979. He has worked at the Technology Research Center of the Japan National Oil Corporation, the Obayashi Corporation Technical Research Institute, and the Japan Agency for Marine-Earth Science and Technology (independent administrative corporation). He has held his current post since April 2014. Specializes in seismology, tsunami simulation, disaster mitigation science. Doctor of Science.

Masafumi Mori Specially-appointed professor



Mori finished his doctor's course at Department of Architecture, Graduate School of Engineering, Nagoya University in 1991. After working for a construction company for 15 years, he became an associate professor at Nagoya University's Graduate School of Environmental Studies from October 2006. In January 2011, he became an associate professor at the Research Cooperation Division of the Nagoya University Disaster Mitigation Research Center, before assuming his current post. His specialty includes seismic engineering, building foundation, and earthquake disaster prevention. Doctor of Engineering. Structural design first-class registered architect.

Toshihiro Noda Deputy Director of the Center / Professor



Noda finished his later period of doctor's course at Graduate School of Engineering, Nagoya University in 1994. Before taking the current post, he was a research associate at School of Engineering, Nagoya University in 1994, and Associate Professor and Professor, Graduate School of Engineering at the University in 1996 and 2008, respectively, and then the current position. His specialty is civil engineering, particularly geomechanics, geotechnical engineering, and anti-seismic geotechnical engineering. Doctor of Engineering.

Yasuhiro Suzuki Professor



Suzuki finished his doctor's course at Department of Geography, Graduate School of Science, The University of Tokyo. Research associate at Nagoya University in 1991. Associate professor at Aichi Prefectural University in 1993. Professor, Graduate School of Environmental Studies, and General Manager of Disaster Management Office, Nagoya University in 2004, and then the current position. His specialty includes geography, tectonic geomorphology and active fault studies. Doctor of Science. University President Adviser.

U Hiroi Associate Professor



Hiroi dropped out of his doctor's course at Department of Urban Engineering, Graduate School of Engineering, The University of Tokyo in March 2007. In April 2007, Project Assistant Professor at this department, and then the current position. His specialty includes urban disaster prevention (disaster prevention measures in metropolis, and risk & human behavior), and urban analysis. Professional social researcher, Doctor of Engineering.

Nobuo Arai Specially-appointed Professor



Arai completed a masters majoring in geoscience at the Graduate School of Science at Kobe University. He has worked in the technical research institute of a construction company, a think tank, and a meteorological information provision company. He has held his present post since April 2014. Specializes in seismic disaster prevention, regional disaster prevention, natural disaster science. Doctor of Environmentalogy.

Mayumi Sakamoto Specially-appointed Associate Professor



Sakamoto completed the doctoral program of the Graduate School of Informatics at Kyoto University in 2010. After working in international cooperation for nine years under JICA, in 2010 she took a position as chief researcher at the Disaster Reduction and Human Renovation Institution (public interest incorporated foundation), before obtaining her present post. Specializes in disaster prevention and risk management, casualty support, disaster prevention education, and international cooperation. Doctor of Informatics.

Masayuki Takemura Professor / Endowed Research Division



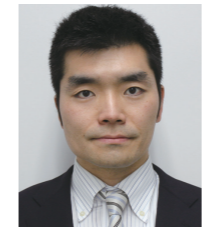
Takemura joined a construction company's technical research institute, after finishing his doctor's course at Graduate School of Science, Tohoku University in 1981. After working at the company's Kobori Laboratory, he took the position of Deputy Director of Takuji Kobori Research Institute in 2010. He took the current position in April 2012. He has served Director of The Seismological Society of Japan, Deputy Chairman of Japan Association for Earthquake Engineering and others. Present Chairman of The Society of Historical Earthquake Studies. His specialty is seismology. Doctor of Science.

Kenji Toraya Assistant Professor / Endowed Research Division



Toraya finished Graduate School of Engineering, Kyushu University in 1997. He took the current position after working for an electric power company. His specialty is urban environmental systems engineering. Doctor of Engineering.

Takashi Tashiro Associate Professor / Endowed Research Division



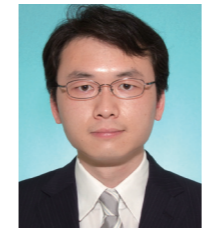
In 2004, Tashiro completed the doctoral program of the Graduate School of Engineering at Nagoya University. In 2004, Tashiro took on the post of specialized researcher at the Aqua Restoration Research Center of the Incorporated Administrative Agency Public Works Research Institute. In 2006, he became an assistant at the Graduate School of Engineering, Nagoya University (assistant professor from 2007). He then became an associate professor of the Graduate School of Environmental Studies at the same university from 2010. He has held his current post since April 2014. Specializes in river engineering, watershed conservation, and ecology and civil engineering. Doctor of Engineering. Disaster Precautions in the Soil and Lifelines Area (Toho Gas) Endowed Research Division

Yoshinori Sone Deputy Director of the Center / Professor / Endowed Research Division



Sone finished his later period of doctor's course at Resource Engineering Department, Graduate School of Engineering, Tohoku University in 1983. He joined a geological survey company in 1983, where he took positions of deputy branch manager at Chubu office in 1999, Sapporo branch manager in 2003, Tohoku branch manager in 2007, vice director general at engineering headquarters in 2010, and then transferred to the Center. His specialty is rock engineering. Doctor of Engineering. Professional Engineer (applied science). Disaster Mitigation Planning for Regional Communities (OYO Corporation) Endowed Research Division

Masato Yamazaki Assistant professor / Endowed Research Division



Yamazaki finished his later period of doctor's course at Department of Global Environmental Studies, Graduate School of Global Environmental Studies, Sophia University in 2010. He took the present position after having served as fellow at Safety Science Research Division, National Institute of Advanced Industrial Science and Technology, and postdoctoral fellow, Ritsumeikan Global Innovation Research Organization, Ritsumeikan University. His specialty is simulation analysis of economy. Doctor of Environmentalogy

Mitsuo Tsuzuki Associate Professor / Endowed Research Division



Tsuzuki finished Graduate School of Science and Engineering, Waseda University in 1986. He took the current position after working for an electric power company. His specialty is earthquake-resistant engineering. Master of Engineering. First-class registered architect.

Tetsuji Kitano Professor / Endowed Research Division



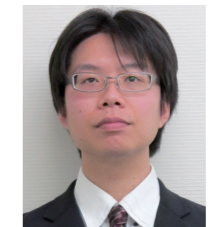
Professor Tetsuji Kitano graduated from Graduate School of Engineering at Kobe University in 1992, and then he joined a gas company where he pursued research and development on the earthquake disaster prevention, construction of high-pressure gas transmission pipelines. From 2004 to 2007, he got a temporary assignment at The Japan Gas Association. After serving the construction project of Undersea Natural Gas Transmission Pipelines across Ise-Bay as a general manager, he took the current position in 2010. He is interested in lifelines earthquake engineering and disaster mitigation. He has a Doctor of Engineering and also a Professional Engineer (construction).

Toshihiro Nonaka Assistant professor / Endowed Research Division



After finishing his master course at Civil Engineering, Graduate School of Engineering, Nagoya University in 2009, and then working for supply & disaster prevention department of a gas company, Nonaka took the current position. His specialty includes geotechnique and earthquake disaster prevention for lifelines. Master of Engineering

Kazumi Kurata Assistant professor / Endowed Research Division



Kurata finished his master course at Department of Environmental Engineering and Architecture, Graduate School of Environmental Studies, Nagoya University in 2004. He developed WebGIS (geographical information system) at a software development company, and was involved in the development of disaster prevention education/awareness systems as a member of collaborative research with Nagoya University. He took the current position in April 2012. His specialty is earthquake disaster prevention. Master of Engineering.

In addition, 29 professors in Nagoya University are appointed as an affiliate professor for the center. The center also has 7 visiting researchers from other research institutes and 24 contract researchers from industry and government.