IISEE International Institute of Seismology and Earthquake Engineering
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Building Research Institute
B R I

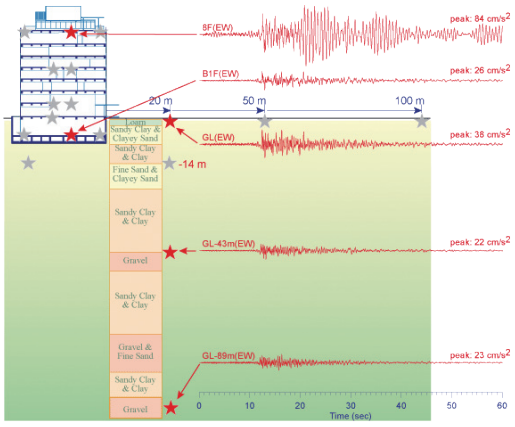
UNESCO
United Nations Educational, Scientific and Cultural Organization

Knowledge Co-Creation Program "Seismology, Earthquake Engineering and Tsunami Disaster Mitigation"

Earthquake Engineering Course

Why should you study in BRI?

Over past 70 years history, the BRI has been leading earthquake engineering as a national research institute in Japan. The research activities are extensive, ranging from theoretical study to large-scale tests and strong motion observations. The achievements have been directly reflected in the seismic design codes for all sorts of structures from low-rise conventional buildings to advanced seismically isolated buildings and utilized for various political measures by governments like the promotion of retrofit of vulnerable structures. To share the knowledge acquired through these activities with other earthquake-prone countries, we have accepted lots of trainees from all the world. The graduates are working in ministries, national research institute, universities, etc.. Their contributions to earthquake disaster mitigation in their home countries are also our pleasure.



What can you study in this program?

After learning fundamental and more practical subjects, you will study the specific topic under the supervision of the BRI staffs or professors of University, and be required to complete the research report. The category of study topics is listed below.

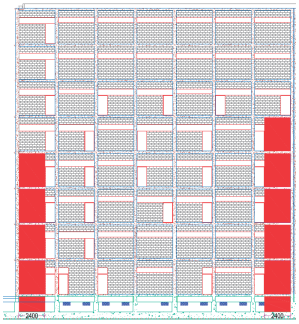
- Nonlinear Earthquake Response Analysis and Damage Evaluation
- Seismic Isolation and Response Control Techniques
- Seismic Performance Design Method
- Seismic Evaluation and Retrofitting Techniques of Existing Structures
- Post-earthquake Damage Inspection Method
- System Identification and Health Monitoring
- Effects of Surface Geology and Soil Structure Interaction
- Geotechnical Engineering and Foundation Structures
- Strategies for Earthquake Disaster Mitigation and Recovery

Example of Master's Report:

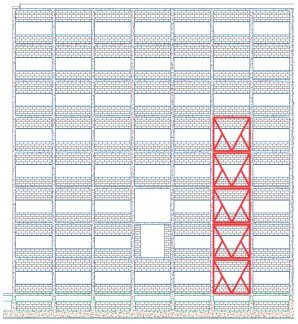
"SEISMIC EVALUATION AND RETROFITTING OF A WEAK 8 STORIED RC BUILDING IN BANGLADESH AND EFFECT OF MASONRY INFILL WALL" by Mr. A.K.M. Sajadur RAHMAN (Public Works Department, Bangladesh)

Seismic diagnosis of an existing reinforced concrete building with infill walls

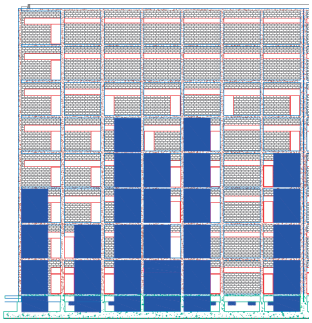
Proposal of retrofit method of buildings with infill walls



1) RC Wing Wall Installation



2) Steel Framed Bracing

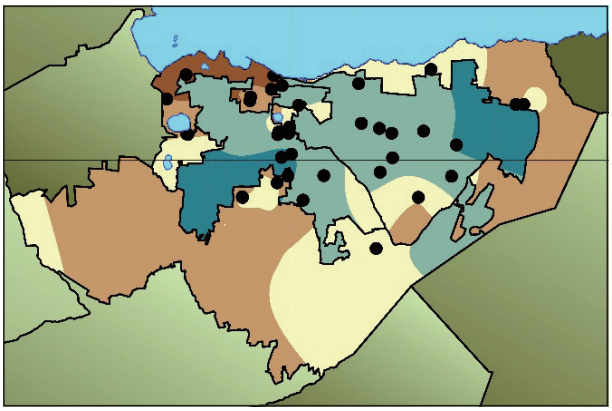


3) Ferrocement

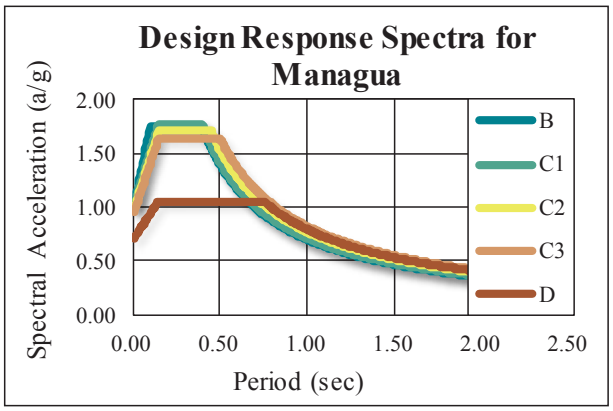
We can apply all of the above methods. However, Ferrocement is most beneficial when considering an economic condition.

Example of Master's Report:

"Feasibility Study of Vs20-based Design Spectra for the urban area of Managua, Nicaragua" by Mr. Jorge Vigarny ROJAS GONZALEZ (National Autonomous University of Managua, Nicaragua)



Soil classification map based on Vs-20 analysis of Managua. The black points represent the investigated points and the color indicate the average shear velocity of the soil.



Proposal of acceleration design response spectra for Managua. The soil type B represent the firm ground, the soil C moderate soft soil and the soil D very soft soil.

Improved design acceleration spectra were suggested by applying new techniques to evaluate site condition effects.

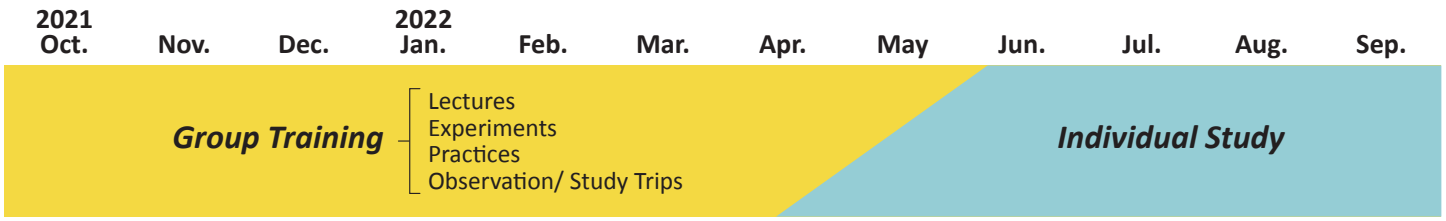
Collaborative Master's Program

Disaster Management Policy Program (DMP) with National Graduate Institute for Policy Studies (GRIPS)

A part of the curriculum of this JICA training course "Seismology, Earthquake Engineering and Tsunami Disaster Mitigation" is approved as a Master's degree program and the individual study report as a Master thesis by GRIPS. Completing all graduation requirements during the program, the participants will be awarded a Master's degree, "Master of Disaster Management" by GRIPS.

Schedule

An example for the courses from Oct. 2021 to Sep. 2022.



Expenses

No self-burden

The following expenses will be provided to the participants by JICA:

- A round-trip ticket between an international airport in your country designated by JICA and Japan will be borne by JICA.
- Allowances for accommodation, meals, living expenses, outfit, and shipping.
- Expenses for study tours in Japan (basically in the form of train tickets).
- Travel insurance that covers from the time of arrival in Japan till departure from Japan.
- Medical expenses for participants who become ill after arriving in Japan.
- Expenses for program implementation, including materials.
- Application fee, admission fee and tuition for the Master's Degree Program of GRIPS will be provided by BRI.

Nominee Qualifications

Nominees must meet the following qualifications:

- be nominated by their national government.
- be technical officials, engineers or researchers who have university degrees in seismology, earthquake engineering, tsunami or equivalent.
- be an employee of governmental organizations, research institutes or universities having public interest in seismology, earthquake engineering or tsunami disaster mitigation (more than 3 years of working experience is recommended).
- be well versed in advanced mathematics and proficient in computer.
- be between the ages of 25 and 42 years as of October 1, 2021.
- be proficient in English: TOEFL iBT 79, IELTS Academic 6.0 or equivalent.
- Applicants who wish to enroll in the Master's Program must submit the official certificate of TOEFL iBT or IELTS.

How to apply

An example for the courses from Oct. 2021 to Sep. 2022

Important Months/Dates	Actions	Actors
July to August 2020	Selection and Nomination of this course in the JICA's course list	National Government of the applicant's country and JICA
December 2020 to January 2021	Document for Recruitment called "General Information" will be delivered to the applicant's country.	JICA
From January to April 2021	Nomination of candidates and application process	Applicants, their National Government and JICA
May to July 2021	Screening and selection of course participants for 2021-2022	JICA, IISEE (and GRIPS for those who wish to enroll)

Inquire at the JICA office in your country about the Knowledge Co-Creation Program:
"Seismology, Earthquake Engineering and Tsunami Disaster Mitigation".
Note that the application must be submitted to JICA office in the applicant's country by the National Government of the applicant's country. Then, applicants must obtain full agreement of their National Government beforehand.

More than 60 years: More than 1,900 participants

The International Institute of Seismology and Earthquake Engineering (IISEE) at the Building Research Institute (BRI) in Tsukuba, Japan provides training program in seismology, earthquake engineering and tsunami disaster mitigation to researchers and engineers from developing countries to strengthen the capacity of earthquake / tsunami disaster mitigation in target countries. Since 1960, a total of 1,915 participants from 105 countries have completed the training courses (as of March 2020).

IISEE mainly conducts one-year (regular) training courses named Seismology Course, Earthquake Engineering Course and Tsunami Disaster Mitigation Course, and two-month course named Global Seismological Observation Course and Latin American Earthquake Engineering Course. Short-term training courses focusing on specific themes take place occasionally.

IISEE Course Classification

Training Course		Field	Estimate	Period	Commencement
Regular	Seismology	Seismology	5	1 year (Oct.-Sep.) Lectures in Class (8 months) Individual Study (3 months)	1960
	Earthquake Engineering	Earthquake Engineering	10		
	Tsunami Disaster Mitigation	Tsunami	5		2006
Latin American Earthquake Engineering		Earthquake Engineering	10 to 15	2 months (2 weeks in Latin America)	2014 (2014-2016)
Global Seismological Observation		Seismology	10 to 20	2 months (Jan.-Mar.)	1995
Individual		Seismology/ Earthquake Engineering/ Tsunami	Several	Upon request	1968

Courses currently being held are shown.

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Building Research Institute

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