

Publications for Architects & Planners



National Information Centre of Earthquake Engineering
Indian Institute of Technology Kanpur

Mission

National Information Centre of Earthquake Engineering (NICEE) was established at IIT Kanpur with the mandate to empower all stakeholders in the building industry in seismic safety towards ensuring an earthquake resistant built environment in our country. NICEE maintains and disseminates information resources on Earthquake Engineering. It undertakes community outreach activities aimed at mitigation of earthquake disasters. NICEE's target audience includes professionals, academics and all others with an interest in and concern for seismic safety.

Starting off right

The noted earthquake engineer, Henry Degenkolb summed up aptly:

If we have a poor configuration to start with, all the engineer can do is to provide a band - aid improve a basically poor solution as best as he can.

Conversely, if we start-off with a good configuration and reasonable framing system, even a poor engineer can't harm its ultimate performance too much.

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Seismic Design Decision Making

Facts

India has a very real earthquake problem. Devastating earthquakes have struck India regularly in the past. India's four seismic zones emphasize that over 60% of land area in India is under moderate to severe earthquake hazard (IS: 1893, 2002).

Unsafe building stock makes the built environment vulnerable and this in turn results in loss of human life and property in the aftermath of earthquakes.

Concerns

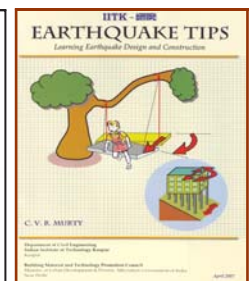
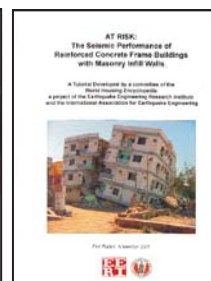
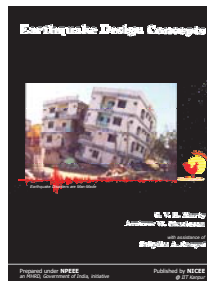
The built environment has to be made earthquake resistant so that lives are not lost through the collapse of

Needs

unsafe buildings. While this requires the active participation of various professionals associated with the construction industry, architects have a very significant role to play.

As initiators of building projects, architectural decisions with regard to building shape, size and geometry, structural system and construction materials are among the first to be taken and the rest of the building team then works towards finetuning these decisions. It is important therefore that the architectural decision making at the conceptual and detail level is sensitive to seismic considerations.

Architects for seismic safety



Each of these publications is targeted at architects—professionals as well as academics. These address the fundamentals of earthquake resistant design at a conceptual, non analytical level and are easy to internalize for application right from the conceptual design stage. The most recent publication on confined masonry construction showcases a time tested technology that is used effectively in several seismic nations.

To receive a free monthly electronic newsletter, please register at www.nicee.org

General Introduction to Earthquake Engineering: Audio Lectures



THE HISTORY OF EARTHQUAKE ENGINEERING FROM AN INTERNATIONAL PERSPECTIVE

by Ar. Robert Reitherman

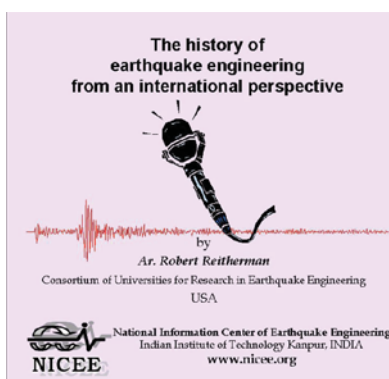
The lecture covers importance of Earthquake Engineering history, its gradual evolution in different parts of the world, major earthquakes and their contribution towards evolution of earthquake engineering and a discussion based on case studies followed by conclusions. Robert Reitherman is an architect by profession and co-author of the celebrated book, *Building Configuration and Seismic Design*. *Duration: 104 minutes. Price: Rs. 500/-*



STRUCTURE AND ARCHITECTURE, ARCHITECTURE AND EARTHQUAKES

by Prof Andrew W Charleson

The lecture covers relationship between architectural and structural form, building interior, building function, structural detailing, structure and light, representation and symbolism. It is rendered with beautiful, architecturally appealing and eye catching photographs to elaborate concepts. *Duration: 104 minutes. Price: Rs. 500/-*



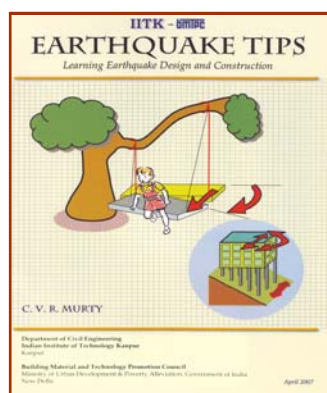
CONCEPT OF EARTHQUAKE RESISTANT DESIGN

by Prof Sudhir K Jain

The lecture covers objectives of earthquake resistant design, implications of design objectives, level of design forces, nature of aseismic design problem, earthquake forces, response spectrum and capacity design concept used in earthquake resistant design. *Duration: 37 minutes. Price: Rs. 500/-*

All CD's contain the video recording of the lectures clubbed with Power Point Presentation slides, and the RealPlayer® installer. All the slides and recording are supplied in an additional folder for the ease of viewing separately, if required.

Guidelines for Conceptual Design and Construction Methodologies

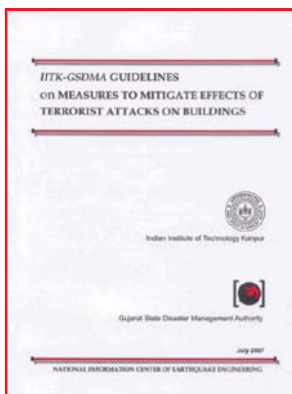


IITK BMTPC Earthquake Tips Learning Earthquake Design and Construction

Targeted at stakeholders in the building and construction industry, this very popular series introduces the basics of earthquake resistant design concepts in a simple and easy to understand format. **Author:** C.V.R. Murty. *56 pages in colour, Price: Rs. 150/-.*

Seismic Conceptual Design of Buildings

This monograph conveys the concept of earthquake resistant design of buildings in a very simple and pictorial style. **Author:** Hugo Bachmann *84 pages in colour. Price: Rs. 200/-*

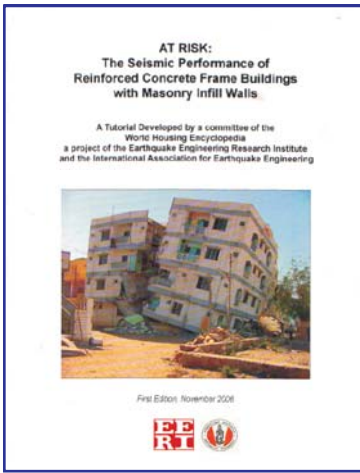


NICEE—
Committed to promoting safety in the built environment.
Protecting buildings against terrorist attacks

IITK—GSDMA Guidelines on Measures to Mitigate Effects of Terrorist Attacks on Buildings

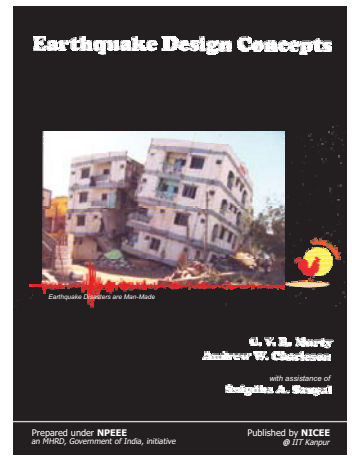
In recent years, terrorism has become a serious hazard and a proactive preventive approach is necessary to mitigate this hazard. Measures to be considered when designing new buildings are the thrust of this document that brings diverse information on the subject to Indian professionals.

Author: C V R Murty, *120 pages, Price: Rs. 200/-*



Earthquake Design Concepts

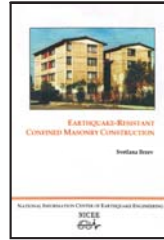
This package (a CD & a 640 printed page volume) contains about 627 power point slides covered in 27 lectures, movie files and explanatory notes for each slide. The set constitutes basic material for both professional architects and academics. It is an excellent resource for preparing lecture presentations on Earthquake Design for undergraduate classrooms and continuing education programmes. **Authors:** C. V. R. Murty, IITK and Prof. Andrew W. Charleson, Victoria University of Wellington, New Zealand, a CD & 640 printed pages. Price: CD Rs. 300/-, Paper Copy: Rs. 500/-



New from NICEE

AT RISK: The Seismic Performance of Reinforced Concrete Frame Buildings with Masonry Infill Walls

This compilation highlights the vulnerabilities of RC frame buildings that are the preferred typology in our surroundings and suggests ways to reduce the same through informed design decision making. **Author:** C.V.R Murty, et al. 80 pages in colour. Price: Rs. 200/-



Earthquake Resistant Confined Masonry Construction

This monograph presents the excellent features of confined masonry in earthquake performance as a viable alternative to current RC frame and unreinforced masonry technologies, for education and sensitization of building professionals. **Author:** Dr. Svetlana N Brzev, 81 pages. Price: Rs. 100/-

Guidelines for Assessment and Evaluation



IITK—GSDMA Guidelines for Seismic Evaluation and Strengthening of Buildings

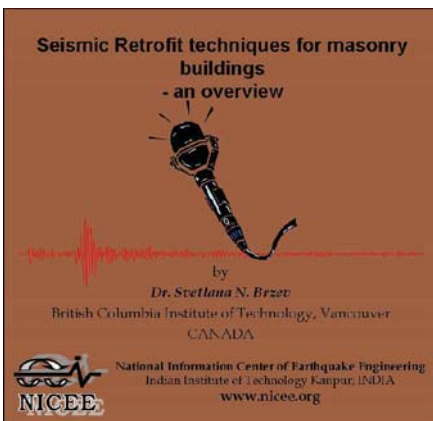
An appropriate and adequate level of safety needs to be ensured for the occupants of buildings. These guidelines are intended to provide a systematic procedure for the seismic evaluation which can be applied consistently to a wide range of buildings. Though not applicable to all building types, the document also discusses some cost effective strengthening schemes for existing older buildings identified as seismically deficient during the evaluation process. **Author:** Durgesh C Rai, 125 pages, Price: Rs. 200/-

Guidelines for Retrofit: Audio CD Lectures

Lectures by Dr. Svetlana N Brzev

Seismic Retrofit Techniques for Masonry Buildings: An Overview

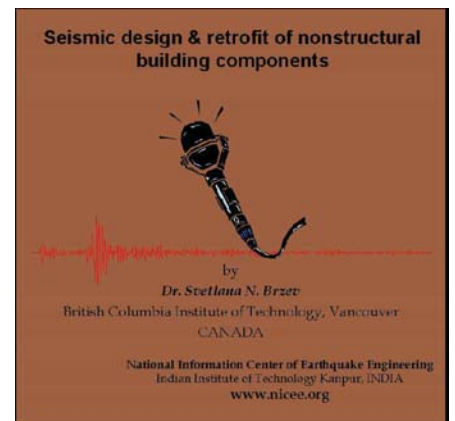
The lecture covers seismic performance of masonry buildings, masonry walls, their behaviour and failure mode and seismic retrofit methods. All the concepts are supported with explanatory sketches and photographs. *Duration:* 62 minutes. Price: Rs. 500/-



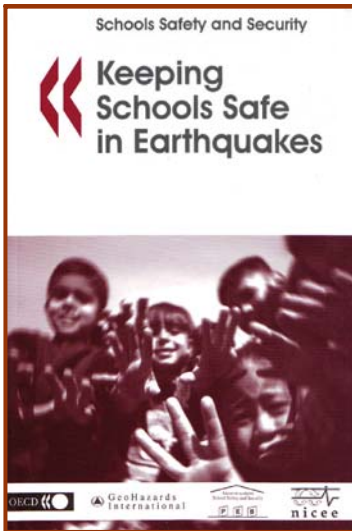
Seismic Design & Retrofit Techniques of Non-Structural Building Components

The lecture covers seismic performance and failure modes, performance objectives, design codes and recommendations and seismic retrofit solutions. The main attraction of the lecture is introduction to simple calculations for seismic design of nonstructural building components. *Duration:* 63 minutes. Price: Rs. 500/-

Both CD's contain the video recording of the lectures clubbed with Power Point Presentation slides, and the RealPlayer® installer. All the slides and recording are supplied in an additional folder for the ease of viewing separately, if required.



Policy and Planning Interventions



Keeping Schools Safe in Earthquakes

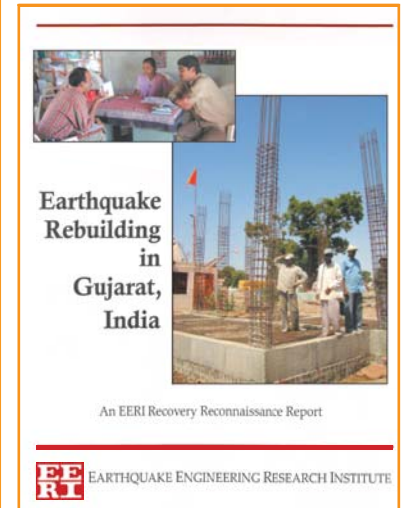
This monograph presents a series of papers authored by participants of the Paris 2004 OECD-GHI meeting, encompassing issues pertaining to new buildings, retrofitting of old buildings as well as enforcement and public policy, towards maximizing seismic safety of schools, an issue of critical importance in any community vulnerable to the earthquake hazard.

Authors: Participants of the OECD-GHI Meeting, 242 pages, Price: Rs. 200/-

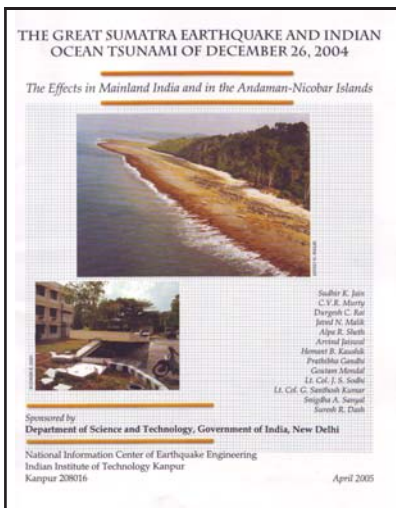
Earthquake Rebuilding in Gujarat, India

This focuses on field observations of the post-earthquake recovery process after the Bhuj 2001 earthquake. This report is a departure from reconnaissance reports conducted in the immediate aftermath of an earthquake in that it showcases the complex and challenging recovery phase and the strategies employed by communities in disaster mitigation that can serve as useful lessons and guidelines towards long-term earthquake disaster mitigation and preparedness.

Authors: C.V.R. Murty, et al, 120 pages, Price: Rs. 150/-



Earthquake Reconnaissance Reports

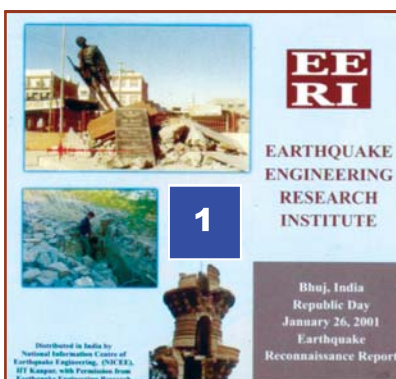
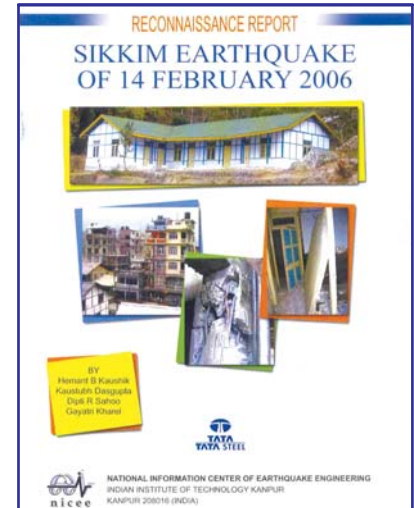


The Great Sumatra Earthquake and Indian Ocean Tsunami of December 26, 2004

This report highlights issues ranging from topographical changes to damage to the built environment, infrastructure and the emergency response systems. The report includes recommendations for addressing vulnerability to earthquakes and tsunamis. **Author:** Sudhir K Jain, et al. 16 pages, colour. Price: Rs. 50/-

Reconnaissance Report Sikkim Earthquake of 14 February 2006

This report documents the disproportionate damage caused by the moderate 5.7 magnitude earthquake in February 2006 and highlights the poor construction practices that have compounded the vulnerability of the region. **Author:** Hemant K Kaushik, et al. 20 pages, colour. Price: Rs. 50/-



EERI Earthquake Reconnaissance Report

CD 1 contains the full text and images of the 398-page, Bhuj, India, Republic Day Earthquake Reconnaissance Report. Price: Rs. 50/-

EERI Annotated Images from the Bhuj India Earthquake of January 26, 2001

CD 2 contains annotated images from the Bhuj, India Earthquake of January 26, 2001 containing over 300 images illustrating geotechnical damage, liquefaction effects and damage to structures, bridges, lifelines, historic monuments, industrial facilities, dams, railways, and ports. Price: Rs. 50/-

