

# IDEERS Newsletter

An \*EPSRC funded project by the University of Bristol's Earthquake Engineering Research Centre for  
Introducing and Demonstrating Earthquake Engineering Research in Schools

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## New Member in IDEERS Project Team

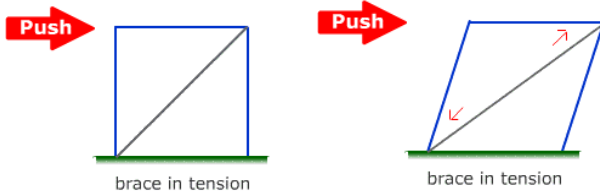


Last September Geraldine Jones joined the IDEERS project team as our web-site programmer. Since then, she has been very busy implementing all the material prepared for her onto the IDEERS web-site.

## IDEERS Web-site Develops

At the beginning of January, the IDEERS web-site took on a new look. It now has five main sections to it; The Competition, Earthquakes, Shaken Societies, Resistant Buildings and Research@Bristol.

The Competition section is complete. It explains the competition details, including rules for the models of earthquake resistant buildings, various tests for the models and how to enter the competition. The rules and tests are illustrated using photographs of models made by the IDEERS team. Technical terms, e.g. natural frequency, compression, bending, are explained in glossary pop-up boxes using animation and various pictures.



### Bracing Animation

The Resistant Buildings section is now undergoing development. So far, it includes basic methods for earthquake resistant design including the triangulation (or bracing) of building frames. Animation demonstrates how rectangular frames can be strengthened against earthquakes by using extra diagonal members.

Soon information on how buildings vibrate and advanced techniques for earthquake resistant design will be added to the Resistant Buildings section. Animation and video clips will be used to illustrate some of the more complicated concepts involved.

The sections on Earthquakes, Shaken Societies, and Research@Bristol will follow shortly afterwards. While they are being developed, links to other web-sites have been provided, so that information on these subjects can be found in the meantime.

\*Engineering and Physical Sciences Research Council

## Bristol Schools' Pilot Project Starts

The pilot of the IDEERS project has now started in five schools local to Bristol. Dr Adam Crewe and Dr Wendy Daniell, the project leaders, have been visiting these schools to introduce the project to participating students.

The introduction included a demonstration of how buildings behave during earthquakes, using models on a small earthquake simulator. A tall and a short building were shaken, showing how buildings respond differently depending on the earthquake's characteristics.



The phenomenon of liquefaction where vibrating buildings sink into damp sandy soil was also demonstrated. Students were fascinated by the damp sand behaving like a liquid.

Slides of damaged structures from recent quakes were also shown.

The pictures had been taken by members of the Bristol Earthquake Engineering Research Centre on post earthquake studies they had joined to Colombia, Turkey and Taiwan in 1999.

Basic methods of strengthening buildings for earthquake forces were also explained to the students

using a two-dimensional model of a building frame with hinged joints. Students were asked to use different bracing members to stop the frame swaying over.

The presentations were well received by the schools, with teachers commenting on how much they too had learnt from them.



**For further details on the IDEERS project visit the web-site at [www.ideers.bris.ac.uk](http://www.ideers.bris.ac.uk) or contact:**

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