12WCEE 2000

0553

# STABILITY ANALYSIS OF FALLS IN STATIC AND DYNANIC CONDITIONS IN SEISMIC CLASSIFIED AREAS FOR URBAN PLANNING: AN APPLICATION IN A SITE TEST (GARGNANO - REGIONE LOMBARDIA - ITALIA)

**N PADOVAN[1], A BELLONI[2], M PRESBITERO[3], L LUZI[4], F PERGALANI[5] And V PETRINI[6]**

## SUMMARY

The aim of the study is the definition and the point out of models for the analysis in static and dynamic conditions in the case of falls, situated in the seismic classified areas of Regione Lombardia, near Garda Lake.

The studied typical situations (11) have been identified on the base of their geotechnic characteristics and their cinematic evolutions.

The geologic hazard maps of the studied phenomena have been performed at 1:5.000, 1:2.000 scale.

Overlaying geologic hazard maps and urban planning map, the risk scenario have been identified, in some municipalities.

In this paper, the application of the methodology, for urban planning, in a site test (Gargnano – Regione Lombardia – Italia) has been presented. The municipality is located near the Garda lake, and it is affected by many falls.

The Regione Lombardia subordinates urban planning to geologic and geotechnic studies, for the zoning of the territory in four geologic feasibility classes. These classes drive the urban planning and the risk mitigation and reduction works.

The geologic hazard maps have been performed (1:5000 scale) using different approaches: morphologic, numeric and considering the return period of the falls on the base of historic data.

The geologic feasibility map has been performed considering the geologic hazard maps and the data of hydrogeologic and seismic risk.

Overlaying the geologic feasibility map and the urban planning, the unsuitable areas and the areas with specific codes have been identified. For the buildings, specific codes and mitigation works have been set, in high and medium risk areas.

**Unfortunately a full manuscript could not be submitted in time for publication in proceedings**

[1] *Regione Lombardia, Direzione Generale Territorio ed Edilizia Residenziale, Ufficio Progetti Speciali per la Gologia e la*
[2] *Regione Lombardia, Direzione Generale Territorio ed Edilizia Residenziale, Ufficio Progetti Speciali per la Gologia e la*
[3] *Regione Lombardia, Direzione Generale Territorio ed Edilizia Residenziale, Ufficio Progetti Speciali per la Gologia e la*
[4] *Consigilo Nazionale Ricerche, Istituto di Ricerca sul Rischio Sismico*
[5] *Consigilo Nazionale Ricerche, Istituto di Ricerca sul Rischio Sismico. E-mail: floriana.pergalani@irrs.mi.cnr.it*
[6] *Consigilo Nazionale Ricerche, Istituto di Ricerca sul Rischio Sismico*