EUROPEAN MACROSEISMIC SCALE (EMS-92); INNOVATIONS ESPECIALLY WITH RESPECT TO ENGINEERED BUILDINGS AND EXPERIENCES IN ITS WORLDWIDE APPLICATIONS

(*Special Theme Session*)

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SCOPE OF THE SESSION

In 1993 a new updating of the MSK Macroseismic Scale, proposed by the Working Group on Macroseismic Scales of the European Seismological Commission (ESC), was published (Grünthal, 1993). This scale update, called European Macroseismic Scale (EMS-92), was adopted in its draft version in the 1992 General Assembly of the ESC.

Macroseismic scales are as ever important to engineers and disaster protection agencies as well as to seismologists not only for studying recent but also with respect to the reliable assessment of historical key earthquakes. In case of lacking strong-motion instrumentation isoseismal maps are widely used for defining local seismicity, for developing damage and loss scenarios, for risk assessments for insurance purposes and for disaster planning measures. These needs, in connection with the limitations of previous scales, their relatively poor definitions of many scale points in relation to currently used building types, lead to the development of the EMS-92 scale which is not at all intended to be restricted to Europe.

It was published with the intention for its parallel use with the last versions of the MSK or MM scale for gathering experiences on the more experimental parts of the EMS-92; i.e. in particular two important innovations for overcoming the inadequacies of previous scales:

1 The categorization of buildings by vulnerability classes; i.e. an indirect association with types of buildings and structural systems. The range of vulnerability allows moreover the assignment with any particular material of construction.

2. The incorporation of engineered constructions with different levels of antiseismic design into the scale; i.e. the possibility of using a much wider range of buildings in the intensity evaluation.

In 1993 the EMS-92 has been distributed worldwide and applied since that both for recent as well as for earlier earthquakes.

During the seminar it is intended to present and to review
(i) in detail the EMS-92 with all innovations especially those which are of interest and importance for earthquake engineers;
(ii) the experiences in applying the updated scale in practice, the result of damage surveys, and checks of the new Scale against previous scale versions to determine its consistency;