## Abstract of Presentation

**Presentation Title:**
Seismic hazard assessment in Mongolia and at Ulaanbaatar. 
Antoine Schlupp (University Louis Pasteur - EOST - France) 
in collaboration with RCAG (Mongolia) and DASE (France).

**Abstract:**
During the last ten years, the RCAG developed his expertise in seismic hazard assessment through its collaboration with French scientists. The research has been presented in several international congresses (USA, France, Italy, Japan, and Germany) and one PhD has been achieved in France (Ulziibat, 2006).

Seismic Hazard Assessment depends on parameters as the potential seismic sources (active faults and seismic areas), the attenuation of the seismic wave with the distance and the site effects. Incomplete knowledge of any of these parameters reduces the accuracy and the usefulness of the resulting seismic hazard assessment. Therefore, we did several years of investigation based on many geophysical measurements, a large seismotectonic analysis and available data. We calculate then a probabilistic and deterministic seismic hazard assessment in Mongolia and near Ulaanbaatar with a quantitative estimation of site effect of Ulaanbaatar area. We show her our recent results for Ulaanbaatar (2006) and preliminary results on whole Mongolia. The results are given in “peak ground acceleration”. It shows that the hazard is the highest in the west part of Mongolia but that Ulaanbaatar, place of highest concentration of population and activities, is also related to a non negligible seismic hazard. For Example, using the Probabilistic Seismic Hazard Assessment (PSHA) for Ulaanbaatar, we observe that the large potential event on Hustain fault (M=7.5 at 47 km) have important contribution.

We did a microzoning of the city which allows us now to consider which frequency is amplified due to Ulaanbaatar basin at various places.

This study is a step on seismic hazard assessment and uncertainties on the results must be reduced. They are due for example to incomplete knowledge on the potential sources (active faults and seismicity) around Ulaanbaatar, to poorly constrained attenuation law in Mongolia due to lack of measurements, and to the difficulty to characterize in details the processes related to the site effects.

To reduce the impact of potential earthquake and to use at best the hazard knowledge and studies, it is important to promote close relation and collaboration between scientific, experts, building designers and emergency organizations.