

## **IUGS-UNESCO IGCP Project 414: Realistic Modeling of Seismic Input for Megacities and Large Urban Areas**

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With the knowledge of accurate, three-dimensional structures and probable, complex source mechanisms, detailed ground motion is under modeling in Antananarivo, Bangalore, Beijing, Bucharest, Budapest, Cairo, Catania, Damascus, Delhi, Katmandu, Ljubljana, Mexicali, Mexico City, Naples, Rome, Santiago de Chile, Santiago de Cuba, Silistra, Sofia, Thessaloniki, Tijuana and Zagreb. A quite successful comparison of modeled and recorded strong motion for the 1980 earthquake ( $M_s=6.9$ ,  $M_L=6.5$ ) has been obtained in Naples. In the Beijing area, macroseismic effects similar to the ones observed in the Da Chang depression during the Tangshan (1976,  $M_w=7.8$ ) earthquake are predicted by modeling in the Beijing depression, which was not very urbanized at the time of the event. In Bucharest, we succeeded reproducing, at a very satisfactory level, the recorded ground motion ( $T > 1$  sec.) during the 1990 ( $M_w=6.9$ ) Vrancea earthquake. A ground shaking scenario was constructed for the Catania area, which corresponds to a past earthquake (1693). In India, preliminary modeling has been made taking the Garhwal region as an example for microzonation studies for Indian conditions. For the Uttarkashi region, the comparison of the modeled seismic ground motion with observations is quite satisfactory and realistic.