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TMD-[Türk Matematik Derneği](#)



KANDILLI OBSERVATORY AND EARTHQUAKE RESEARCH INSTITUTE

In the framework of Mathematics on Planet Earth 2013 project, IMBM will coordinate a series of activities between different institutes and departments in Istanbul, particularly with Boğaziçi University members, mainly focusing on the study of the earthquakes, one of the most prominent natural disaster in Turkey, causing considerable losses both in terms of human life and economy. One of the main purpose of this initiative will be to establish a strong link between recent advancements in mathematics, with the wide range of disciplines that concentrates on the physical interpretation of the real world data related to earthquakes. The interdisciplinary nature of the research requires the involvement of many experts from disciplines ranging from pure science to engineering background.

The backbone of the activities will be organized along two major tracks, the **modelling** of complex earth processes (eg. rock rupture phenomena, tsunami generation, etc) and **data mining** for handling the large amount of data flowing in from various earthquake observation infrastructures (seismic networks, GPS networks, tsunami networks) using the most recent advances in **statistics and signal processing** tools.

We plan to form a research-in-group which includes mathematicians, earthquake engineers, electronic engineers, computer scientists and geophysicists studying the earthquake rupture, as well as fracture mechanics.

Tutorial type of presentations will be organized in order to make a rapid introduction to the actual status in each different field. Preferably, world leading experts will be invited for the tutorial presentations with the additional intention of enlarging the cooperation to an international level. Common research projects and jointly supervised PhD thesis will be the ultimate goal of this initiative. An international workshop will be organized in Fall 2013.

The Turkish Mathematical Society (TMD) will cooperate as partner to all the mpe2013 activities of IMBM and additionally will organize a special session at the 2013 National Mathematics Symposium.