

EARTHQUAKE MATTERS

Creating seismic resilience in Istanbul (First Draft)



What is our project idea?

Only few kilometres from the megacity of Istanbul, two tectonic plates move past each other along an earthquake fault, the North Anatolian Fault (NAF). That fault, one of the most dangerous in the world, experienced a westward progression of 8 large earthquakes between 1939 and 1999, the last being a $M_w=7.4$ near the city of Izmit. Istanbul is awaiting an overdue earthquake of large magnitude, but that fact is only insufficiently changing Istanbul inhabitants' behaviour to improve

household preparedness, nor motivating geoscientists to engage citizens through interactive risk communication approaches. In addition, earthquake risk mitigation is highly politicized: In the context of Urban Renewal Projects, neighbourhoods undergo a significant transformation. Although mitigation measures contribute to increase the seismic safety of the building stock, they are also largely perceived as a gentrification of the city, with its inherent social, cultural, and ecological consequences. This growing dissent affects the public perception and ultimately the efficiency of seismic risk communication in a fundamental way. *Earthquake Matters* outreach project will raise awareness about this lack of correlation between the provision of scientific information and community adaptation measures, creating science-public bridges through a neighbourhood-centred participatory approach. Our outreach project focuses on a neighbourhood in Kadiköy, located on Istanbul's southern shore (near the NAF), thus directly facing an elevated earthquake and tsunami risk. *Earthquake Matters* will provide the framework for collaboration between earth and social scientists, disaster risk reduction (DRR) experts, proactive citizens and representatives of the urban innovation space TAK. It will combine 3 interactive workshops focused on inquiry-based and applied learning; Workshop I consists of a mind mapping session with physical models and hands-on experiments that allow to share different perspectives on household vulnerability. This workshop will be accompanied by inputs from both scientists and locals. Workshop II will transform the mutual learning results into "adaptation action", during which inhabitants preparing their households will document their personal experiences with visual means. The resulting campaign film/photo series will be shown in a public screening at TAK, to motivate the round discussion table of Workshop III. *Earthquake Matters* will transform seismic risk communication into a shared and engaging learning experience that heightens community resilience.

Project goals

Top-down-knowledge transfer is empirically shown to have only limited capacity to address present-day disaster risk. Taking into account that inhabitants are the most important actors of creating neighbourhood resilience, the major goal of *Earthquake Matters* is to create genuine science-public links through shared, transdisciplinary learning experiences. Our commitment to apply a human-centred research and methods that allow group creativity and sensitivity towards local concerns are at the core of this action. We believe that integrating people's life-worlds into geo-communication can lead to "socially robust", engaging approaches that are sustainable in their application. *Earthquake Matters* will facilitate; (i) the process of geoscientists integrating local knowledge on people's needs, behaviours and considerations, and (ii) inhabitants contextualizing geological knowledge in everyday life situations, as well as transforming it into "hands on"

adaptation measures. *Earthquake Matters* will provide a shared platform to demonstrate the power of these novel science-public interactions, beyond “armchair” assumptions on how target groups live and behave.

Cost and provisional budget

The estimated overall cost of *Earthquakes Matters* 11.500€. These expenses include (i) logistic costs, such as transportation in and out of Istanbul, accommodation for the grant applicants and the invited speakers, rental of workshop rooms, presentation material (beamer, screen), workshop material, material for the physical models, and the catering for the participants, as well as (ii) production costs, like rental of film equipment, editing costs, graphic designer and camera (wo)man. We will request 1000€ from the EGU Public Engagements Grant to cover two key components of the project; (i) Turkish-English translation and (ii) media campaign. Given the area at risk and the target public, *Earthquake Matters* will take place entirely in Turkish language. Therefore, a translation to English and hiring a media campaign professional are essential elements to disseminate the results in the most effective manner. The remaining budget will come from ITN ALERt (see below).

Project evaluation and future plans

The evaluation and dissemination of the collected experiences will be represented in a series of multimedia components; a film, a website, blogs and Facebook entries. The film will be shown during Workshop III and will be disseminated within the EGU community. Following an inclusive approach, all information will be available on a professional interactive website, which will be designed to allow a continued dialogue between the project participants. The website will represent the adaptation process and will serve as a tool for interaction and feedback. Earthquakes Matter aims to develop an easy-to-reproduce methodology to built up long-lasting relationships among inhabitants, DRR-experts and geoscientists to improve risk communication in other areas facing seismic risk.

Outreach experience

David Fernández-Blanco is a researcher working in transnational, high-end research on structural geology and tectonics. His experience in funding and coordinating transdisciplinary integrative projects is manifested in his leadership of the international research network BRIDGE (Basic

Research Integrating Disciplines in Geosciences). Johanna Ickert is a documentary filmmaker and cultural anthropologist with several award-winning films at international festivals. She has broad expertise using film as a mediation tool in science-public-collaborations and has collaborated with leading NGOs and research institutes in the field of sustainability sciences (<https://goo.gl/GcXsg6>). Both applicants are part of the Marie Curie ITN ALerT (<http://itn-alert.org/>) on the fields of applied Earth sciences, natural hazard monitoring, knowledge transfer, and risk communication. They are together promoting science communication and outreach activities aiming at improving risk communication.

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