



## Seminario di “Avvio al Lavoro”

# The Reference Geological Model (RGM) in the professional practice

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Aula Arduino

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### Abstract

The Reference Geological Model (RGM) is the basic tool of any civil engineering design and construction as fully described in the “Norme Tecniche per le Costruzioni” (NTC2018, D.M. 17/01/2018).

Geological structures are normally complex and for the major part cannot be directly observed, for these reasons we can say that in most cases, a fully reliable prediction of the geological, hydrogeological and geotechnical conditions are not possible. Anglo-Saxon culture has stated for some time (Essex, 1997) that "Mother Nature" did not create subsurface conditions in accordance with a materials properties handbook, nor do geotechnical engineers (or any other participants in the process) have magical predictive powers. The design and construction process must account for the variability of subsurface conditions, and potential for project costs associated with that variability (IAEG, 2009).

The reference geological model is a conceptual reconstruction of the three-dimensional geometric situation and a succession of time and space geological events characterizing a given portion of the subsurface. It has a logical meaning derived from the objective surface, subsurface and laboratory data available at the time it is formulated. RGM is subjective, as it is also derived from the interpretation given by the technicians concerned. The model is subject to change over time according to new data that is accumulated after its formulation. The new data can be integrated in a correct way or can justify a revision up to actual reformulation (IAEG, 2009).

The workshop illustrates through a series of practical examples taken mainly from Oman and Brazil, how the RGM is elaborated and presented and how it is change according to the design phases.

Proponente: **Leonardo Piccinini**