

China-Europe Conference on Geotechnical Engineering (Aug 13-16, 2018, Vienna, Austria)
*Special Session is organized under the auspices of the Commission for Waste Disposal (C36)
under the International Association for Engineering Geology and the Environment (IAEG)*

Unsaturated Soils in Waste Disposal and CO₂ storage

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Problems related to hazardous and non-hazardous waste management (nuclear waste disposal, CO₂ sequestration and landfill of municipal solid waste (MSW)) are crucial interdisciplinary issues, including lots of engineering geological challenges, and therefore have become a serious of global environmental issues. In this regard, effective methodologies have been proposed for dealing with this kind of problems.

Deep geological repository has been considered to be the most appropriate solution to dispose high-level radioactive waste (HLW). During the construction and long-term operation of a geological repository, the engineered barrier system, initially unsaturated, is simultaneously subjected to heating, drying and wetting cycles, as well as chemical reactions, etc., i.e., a very complicated thermo-hydro-mechanical and chemical (THMC) coupling conditions. In the meantime, geological storage technology is generally accepted as a promising way for reducing emissions of CO₂ into the atmosphere. A critical matter for the geological storage is to prevent the possible leakage of captured and stored CO₂. Similarly, the related scientific issues in nuclear waste repository could be encountered, in particular in terms of problems involving chemo-thermal-hydro-mechanical coupling conditions.

This special session aims to serve as a forum for active researchers to present their latest findings on the engineering geology or geotechnical engineering problems related to unsaturated soils in waste disposal and CO₂ storage, in attempting to promote the exchange of ideas, practices and state-of-the-art on a broad range of topics in the related areas. The special session welcomes any work related to (but not limited to) the following topics: impacts of cyclic wetting-drying processes on the behavior of engineered barrier, engineering behavior of unsaturated soils under THMC coupling conditions, evaluation of the long-term performance of deep geological repositories for HLW disposal, influences of CO₂ storage on the geological environment, gas migrations in geo-materials, etc.

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Further information on submission deadline can be found on the conference website: China-Europe Conference on Geotechnical Engineering, August 13-16, 2018, Vienna, Austria, website: <https://chinaeuro-geo.com/>.