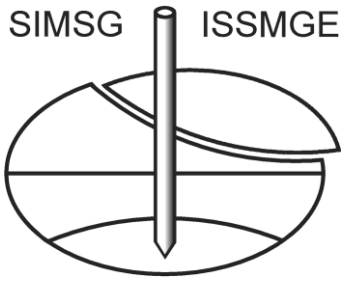
TC 215 – Environmental Geotechnics



TC 215 Terms of Reference 2022-2026

Objective 1: Dissemination

The discipline of Environmental Geotechnics has evolved since its beginnings in the late 1970s to the early 1980s through the adoption and adaptation of geotechnical engineering knowledge to produce practical solutions for problematic environmental situations. The design of low-permeability pollutant barriers, such as waste containment liners and cut-off walls, may be mentioned as an example of the application of geotechnical engineering expertise, which was mainly gained from the design of earth dams and embankments and then refined for environmental purposes. When facing these new challenges, geotechnical engineers understood that knowledge of traditional soil mechanics was a necessary but not sufficient condition to obtain satisfactory results, and they started to broaden their formal education to include chemistry, geochemistry, and groundwater hydrology. The performance of a containment barrier is, in fact, not only related to its mechanical and hydraulic features but also to its ability to limit the mass transport of a pollutant to the groundwater. The need to integrate hydrogeology and civil engineering became apparent. This was followed by a need to integrate polymer engineering into civil engineering and the increase in knowledge needed to apply geosynthetics to waste containment applications effectively. Nowadays, Environmental Geotechnics issues include, among others, waste containment, waste mechanics, the stability of landfill liners and covers, the stability of tailing dams and heap leach pads, the surface containment of lagoons and ponds, soil remediation, contaminated and damaged land reclamation, biologic processes for soil improvement, environmental geochemistry, underground energy exploitation, carbon dioxide sequestration, and nuclear waste disposal.

The term Environmental Geotechnics is sometimes combined or replaced with the more broad-based term Geoenvironmental Engineering to emphasize the multidisciplinary aspects of soil-environmental problems from an engineering perspective. In this context, Geoenvironmental Engineering is commonly meant to indicate the overlap of skills coming not only from a geotechnical engineering background but also from other disciplines, such as groundwater engineering and environmental engineering.

The ISSMGE Technical Committee on Environmental Geotechnics - TC 215 aims to provide a forum for active participation by its members with the view of advancing the state of knowledge in the field of Environmental Geotechnics. It promotes the dissemination of knowledge, research findings and practice in the area of Environmental Geotechnics through close collaboration with ISSMGE TC committees and sister societies TCs.

The quadrennial premier conference organized under the auspices of TC 215 is the International Congress on Environmental Geotechnics (ICEG). The 1st ICEG took place in Edmonton (Canada) in 1994, and the next

upcoming 9th ICEG will be held in Chania, on the island of Crete in Greece, from the 25th to the 28th of June, 2023.

The second event organized under the auspices of TC 215 is the International Symposium on Coupled Phenomena in Environmental Geotechnics (CPEG). The 1st CPEG symposium was held in Torino (Italy) in 2013, and the next upcoming 4th CPEG symposium will be held in Denver, Colorado (USA) in 2025.

In 2012 the ISSMGE and TC 215 established the "R. Kerry Rowe Lecture" in recognition of Professor Rowe's impact in the field of Environmental Geotechnics and excellence in scholarly achievements. The lecture is to be given at the opening plenary session of the International Congress on Environmental Geotechnics and is published in the Canadian Geotechnical Journal.

Moreover, TC 215 promotes special sessions and joint sessions with other TCs (ISSMGE and sister societies) at regional and international conferences; organizes workshops and educational courses; prepares special issues on selected themes for publication in scientific journals; interacts with sister societies to promote new initiatives.

Objective 2: Guidelines and recommendations

A report entitled Environmental Geotechnics was published online by TC 215 in 2006 and can be downloaded from TC 215 website.

TC 215 encourages the cooperation of members, who share a common interest but have not had the occasion to work together before, to prepare papers to be published in international journals. The papers may be both research papers focused on leading-edge research and state-of-the-art papers. The Authors are invited to acknowledge the support of TC 215 for the preparation of the paper and consider the publication in Open Access.

The TC 215 website provides updated information about publications, webinars and conferences in the field of Environmental Geotechnics and makes available educational material.

Objective 3: Conference assistance

TC 215 assists with technical programs of international and regional conferences organized by the ISSMGE and sister societies. It promotes the presentation of the findings of the TC in main sessions and discussion sessions. In addition, it valorizes the R. Kerry Rowe Lecture (TC 215 honour lecture) that is to be given at the opening plenary session of the International Congress on Environmental Geotechnics (ICEG) and on the occasion of the International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE); the associated paper is also published in the Canadian Geotechnical Journal.

Objective 4: Industry Links

TC 215 aims to establish cooperation and knowledge exchange with national and international public institutions and government agencies to help provide safe protection of the environment. Promote and recommend TC 215 members' best practice published papers and reports to the industry. Improve the relationship with the industry through joint seminars/workshops. Use the TC 215 website as the vehicle for the delivery of the information needed by the industry.