



1. Title

Physical Restoration of Soils

2. Type

Commission Symposium: Comm. 3.5-Soil degradation control, remediation, reclamation

3. Organizer(s) & Convener

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4. Rationale

In recent years, the need for physical soil restoration increased because of the ever increasing amount of soil deterioration due natural (fire, water and wind) as well as human impact (de-forestation, construction, agricultural vehicle traffic etc.). The most critical aspect of physical soil restoration is re-establishing a soil's original structure, i.e. the characteristic spatial arrangement of individual soil particle and peds, which control air and water flow as well as nutrient transport and storage. Natural soil structure restoration involves processes such as swelling and shrinkage induced by soil wetting and drying, freezing and thawing as well as root growth and bioturbation by burrowing animals. Technical structure restoration measures include for example mechanical soil loosening to remediate soil compaction or re-vegetation and applying structure forming agents to re-establish a stable soil surface structure to avoid soil loss by erosion. Finally, an increasing amount of soils are engineered, especially in urban settings, with the need for soil physical restoration techniques that guarantee the desired soil functions for parks, golf course, urban gardens.

5. Objectives

Goal of this symposium is to bring together the world's leading experts in physical soil restoration to present the state of the art in physical soil restoration, its current possibilities as well as challenges.

6. Description

We are planning on having the state of the art in soil physical restoration presented by a couple of key-note speakers (TBD). Presentations of scientific papers will then cover basic and applied research as well as case studies on soil physical restoration world-wide.

