

MS-18: Geomechanics and Related Applications from Micro to Macro

Jipeng Wang, Abdelali Dadda

Shandong University, Jinan, China

E-mail: Ji-Peng.Wang@sdu.edu.cn; abdelali.dadda@gmail.com

The interdisciplinary study of micro-to-macro mechanics in geotechnical engineering is an emerging topic that encompasses a variety of perspectives, ranging from the micro-scale (particle scale) to the macroscopic mechanical response of geomaterials. This mini-symposium will concentrate on subjects including, but not limited to, the micromechanics of geomaterials, ecological geotechnical engineering, and biogeotechnics. Participants will engage in academic exchanges and discussions focused on how microstructural features influence the macroscopic mechanical and hydraulic responses of soils. We aim to explore the essence of complex behavior exhibited by geomaterials and discuss their related applications in geotechnical engineering practice. This symposium will bring together researchers, geotechnical engineers, and practitioners to foster collaboration and advance the study of geomechanics from micro to macro scales. Contributions are welcome on, but not limited to, the following topics:

- Advanced geotechnical micro test methods, such as Computed Tomography (CT) technology
- Numerical modeling of micro-macro scale of geotechnical materials
- Ecological geotechnical engineering and field applications, such as improving slope stability through vegetation
- Biogeotechnics, such as Microbially Induced Calcium Carbonate Precipitation (MICP) and Enzymatically Induced Calcium Carbonate Precipitation (EICP)
- Future trends in emerging technologies in ecological geotechnics