# Geodata and Digital Transformation of the Subsurface for Energy and Mineral Resources

**Abstract :** This talk addresses the role of geodata in the digital transformation of subsurface characterization for energy and mineral resources. It discusses the structure and intrinsic properties of geodata acquired across multiple observation scales and acquisition methods. Emphasis is placed on data-driven integration and analysis using Self-Organizing Maps (SOM), with a focus on applications in clustering, similarity analysis, and subsurface modeling.