

A - Thermal energy geo-structures

Abboud et al.	Numerical Modelling of Energy Piles Subjected to Inclined Loading
Abed et al.	Numerical Investigation of Thermal Pile Performance in Soft Clay
Alnahar et al.	Energy piles system to limit the earth pressure development on integral abutments
Al-Tawaha et al.	Highlighting the importance of incorporating layered thermal properties in energy foundation design
Alvi et al.	Numerical simulation of the ground thermal storage of solar heat through an energy wall system
Ardakani et al.	Numerical Analysis of Thermal Efficiency and Resilience in Energy Geo-Structures: Performance Optimisation and Thermal Recharge
Badr Mabrouk et al.	Study of the Performance of Shallow Horizontal Closed Loop Geothermal System in Arid Climate
Barba-Galdámez et al.	Reliability analysis of energy piles using importance sampling based algorithm
Baser et al.	Balancing Complexity and Practicality: Is Advanced Modeling Necessary for Shallow Geothermal System Design?
Bashiri et al.	Investigating the behaviour of cyclically thermally-activated helical piles with tapered helices using physical modelling
Beh et al.	Numerical Modelling of Ground Improvement Thermal Parameters for Long-Term Energy Pile Performance
Bodas Freitas et al.	Thermo-mechanical interactions in thermally-activated pile groups
Bourne-Webb et al.	Thermal loading in the simulation of thermally-activated pile foundations
Brunner et al.	Air Flow and Temperature Effects on Energy Geostuctures: A Case Study of the Lainzer Tunnel
Campos et al.	Impact of Matric Suction Variations on the Lateral Earth Pressures of Retaining Walls
Ciardi et al.	Numerical evaluation of the thermo-hydro-mechanical behavior of energy micropiled raft in hypoplastic clay
De Feudis et al.	A solar-collection system for tunnel thermal storage
Erginag et al.	Three-dimensional thermal loads and their effects on the structural performance and durability of energy piles
Faizal et al.	Estimating soil effective thermal conductivity from energy pile field tests
Förderer et al.	Climatic effects on geothermal district heating networks
Francesco et al.	Parametric Numerical Investigation of Energy Piles for Thermal Energy Storage Across Diverse Climatic Conditions
Gerola et al.	Numerical modelling of Cutter Soil Mix energy walls
Ghalandari et al.	Harvesting low-temperature heat from asphalt pavements for road snow melting
Gjengedal et al.	The energy wall at Campus Ullevål – use of clay for energy storage
González Tejada et al.	Thermoactivation of the A-5 cut-and-cover urban tunnel in Madrid
Grubben et al.	On the existence of stable boreholes in unconsolidated sands
Guan et al.	Development of a scale model energy diaphragm wall panel for centrifuge modelling
Gupta et al.	Analytical validation for Energy walls with dual heat exchanger pipes
Hu et al.	Numerical study on the application of energy diaphragm wall in Northern Germany
Jafarzadeh et al.	Thermomechanical Behavior and Bearing Capacity of Energy Piles: Insights from Dry and Moist Soil Comparisons
Khaksar et al.	Poroelastic analysis of nonuniform permafrost ground responses under group heat exchanger operations in a Canadian subarctic climate
Khamis et al.	Experimental study in a centrifuge of a laterally loaded energy pile
Kumar et al.	Influence of Soil Retention Properties on the Response of Pile Heat Exchangers in Partially Saturated Soils
Kumar et al.	Thermal Performance Analysis of Geothermal Energy Pile Using Deep Learning Techniques
Lahoori et al.	Stability of thermal embankments: effect of temperature and water content evolutions
Loveridge et al.	The thermal response of large diameter energy piles
Magdy et al.	Thermal Influence Zone of Energy Tunnels under Different Scenarios in terms of Groundwater Levels and Operation Periods
Makasis et al.	Different perspectives for assessing shallow geothermal potential for the city of Cambridge, UK.
Milev	A Framework for the Thermo-Mechanical Analysis of Energy Geothermal Piles: A Hypothetical Case Study in Sofia, Bulgaria
Morcioni et al.	Thermo-Mechanical Analysis of Energy Quay Walls
Narsilio et al.	Thermal Stratification Effects on Geothermal Heat Exchange Systems in Pit Lakes: A Modelling Perspective
Ouzzine et al.	Centrifuge and numerical study of partially activated energy pile groups
Pico et al.	Coupled THM Finite Element Modeling of Cyclic Thermal Loading on Energy Piles Using a Hypoplastic Model in OpenGeoSys
Polat et al.	Harnessing Geothermal Energy from Flooded Abandoned Mines: Numerical Modelling and Long-Term Performance Optimization
Polat et al.	Incorporating Atmospheric and Solar Influences in Numerical Analyses of Energy Piles: A Validation Study
Pratama et al.	Thermo-hydraulic Response of Energy Raft Foundations under Various Groundwater Conditions
Provost et al.	An approach for including heat pump performance in the design of thermo-active piles
Qiu et al.	One-dimensional numerical modelling of long-term thermo-mechanical behaviour of energy pile in clay
Rafai et al.	Investigations on the effects of Freezing-thawing cycles on energy piles
Rafai et al.	The impact of thermal creep on energy pile systems
Rezaie et al.	Investigating the effects of pile installation method and soil density on helical piles under mechanical and thermal loading
Romiti et al.	Effects of subzero temperature circulating fluids on the performance of Energy Micropiles
Rottemberg et al.	Integrating small strain stiffness into the elasto-plastic framework for energy tunnel analysis
Ruiz Carvalho Tosin et al.	Thermal response test on an energy wall in an unsaturated tropical soil site
Sá et al.	Influence of groundwater flow on energy pile groups: a centrifuge modelling analysis
Sadeghi et al.	Heating and Cooling Thermo-Mechanical Effects on Driven Energy Piles in Norwegian Quick Clay
Salciarini et al.	Advancements in System Modeling and Load Assessment for Infrastructure's Ground-Source De-Icing
Salciarini et al.	Enhancing Thermal Performance of Energy Geostuctures with Phase Change Materials
Sánchez Fernández et al.	A data-driven approach to predicting the long-term thermal performance of thermo-active piles
Sau et al.	Impact of thermal loading on pore pressure and K0 in low-permeability clayey soils
Sauvenier et al.	THERMETRENNES Project- The Cleunay station
Shadabi et al.	Numerical Investigation of Thermo-Hydro-Mechanical Modelling of Energy Pile under Continuous and Intermittent Operation
Shah et al.	Investigation for Thermal Consolidation of Saturated Clays Under Repeated Heating Cooling Cycles
Taborda et al.	Optimising the design and delivery of ground-source energy systems through interdisciplinary research
Talagi	Numerical Model of Hypothetical Energy Piles and Energy Storage in Hawaii, USA
Tiwari et al.	A comparative assessment of two types of energy micropiles in view of energy retrofitting of existing buildings in dense urban area
Tourchi et al.	Thermo-Hydro-Mechanical Analysis of Geothermal Piles: Implications for Shaft Bearing Capacity
Vardon et al.	The characterisation of thermal creep for energy pile systems
Vasilescu et al.	Durability and Efficiency of Energy Piles: A Multi-Year Investigation Under Real Operating Conditions
Vincent	Geothermal Pavements: A Sustainable Solution for Reducing Urban Heat Island and Enhancing Pavement Durability
Xu et al.	Optimization of Large-Scale Shallow Geothermal Systems for Sustainable District Heating: Insights from Thermo-Hydraulic Modelling and Field Testing
Yan et al.	Effect of groundwater flow on ground heat accumulation induced by ground source heat pump systems under unbalanced seasonal building thermal loads
Yazdani et al.	Life cycle assessment and carbon payback of energy piles with different configurations
Yu et al.	Winter Performance of a Geothermal Bridge in Texas

B - Fundamentals of geo-energy and low-carbon engineering

Ana et al.	Thermal Properties of Lisbon Soils
Ashrafi et al.	Numerical investigation on the behavior of clays under thermal and mechanical cyclic loading
Cardin et al.	Influence of Testing Apparatus on Swelling Pressure Assessment in Clay Rocks
Cascante et al.	Using Hilbert-Huang transform to assess changes in mechanical elastic properties of concrete.
Cha et al.	Long-term response of sand subjected to repetitive heating and cooling cycles : Shakedown, ratcheting, and terminal void
Dai	Nanoindentation characterization of granite at elevated temperatures
Ebrahimisadr et al.	Tensile strength and crack pattern during desiccation of compacted clayey soils
Gevorgyan et al.	The effect of temperature cycles on the compressibility of normally consolidated clays
Ghare Haghighat et al.	Thermo-acoustical-mechanical characterization of rock properties under in-situ conditions
Güneri et al.	Evaluation of Thermal Conductivity Performance of Zeolite-Bentonite Mixtures with Aluminum Powder Additive at High Temperatures
Kayser et al.	Experimental and numerical investigation of coupled thermo-hydro-mechanical behaviour of clay
Kinslev et al.	The influence of pore fluid composition on the variation in the maximum swelling potential of cap rock shale
Kochi et al.	Strain rate dependency of peats subjected to unloading-heating history
Mansour Khodja et al.	Sustainable soil stabilization using biopolymers: valorization of spent coffee grounds and casein for low-carbon geotechnical applications
Moghrabi et al.	Thermal and Saturation Effects on the Mechanical Properties of Sedimentary Rocks and Protective Potential of Chemical Coatings
Morvan et al.	A thermo-mechanical elastoplastic constitutive model for saturated soils using bounding surface plasticity
Murase et al.	Determining Water Quantities and Forms in Clays with Static ¹ H-NMR
Pak et al.	Influence of temperature on saturated hydraulic conductivity of biochar amended compacted clay
Pirjallili et al.	A new method to determine the thermal properties of soil and evaluate the affecting parameters
Rizvi et al.	InTCM: A deep learning based automatic thermal conductivity device for the full range of saturation
Sac-Morane et al.	Evolution of the stress state during the debonding of biocemented granular matter
Stefanou et al.	Preventing human-induced seismicity to fight climate change
Suzuki et al.	Relationship between CO ₂ fixation ability and relative humidity of fly ashes with different water retentivity
Tabbiche et al.	Development of a frost heave experimental setup using MRI
Tafili et al.	Unified Modelling of Thermal and Mechanical Creep in Fine-Grained Soils
Taheri	Rock Localized Behavior and its Engineering Significance
Trinidad et al.	Stochastic Data-Driven Modeling of Geothermal Capacity Informed by Open-Source Data
Trishia Liezl Mallari et al.	Comparative Effects of Hydrochar, Biochar, and Manure Amendments on Vegetation in Geoenvironmental Applications of Construction Waste
Vargas-Neuville et al.	Improved Evaluation of Bender Element Testing for Different Confinement Stress Levels
Wang et al.	Wood waste biochar as a green strategy for enhanced soil water retention and carbon sequestration in plant-soil system
Xu et al.	Carbon dioxide capture and chromium-contaminated soil remediation using steel slag
Yang	Influence of temperature on the shear behavior of sand
Yildiz et al.	Thermal Behavior of Shallow Soil Deposits and Relationship with Physical Properties
Zeinali et al.	Mineral Type Impact on Thermal Conductivity of Biocement and Biocemented Sand

C - Carbon dioxide and energy geo-storage

Ahn et al.	Impact of hydraulic conductivity variation on pressure build up during CO ₂ injection in hydro-mechanical fault systems
Ciancimino et al.	Caprock degradation mechanism under monotonic and cyclic loading: insights from elastic wave measurements
Della Vecchia et al.	Bridging the gap between mechanical and reactive transport models for calcite-rich caprocks for geological carbon storage applications
Diego et al.	Mechanical Behavior of Cement-Rock and Rock-Rock Discontinuities in the Presence of Supercritical CO ₂ : Experimental and Numerical Evaluation
Fei et al.	Impact of Drainage System on the Stability of Underground Lined Rock Cavern Gas Storage
Franza et al.	Pumped underground hydroelectric energy storage system in sand: an overview of the field trials in Foulum, Denmark
Gang et al.	Supercritical carbon dioxide injection considering the injection condition at the deep aquifer
Javani et al.	Experimental study and numerical modeling of the effects of cyclic mechanical and thermal loading on the well integrity in CO ₂ injection projects
Jeon et al.	Surfactant Injection in CCS: Effects on Interfacial Properties and Implications for Safety
Ke et al.	Pattern Formation in Coupled Fluid-Grain Flows within a Hele-Shaw cell
Klar et al.	Required Research Steps for the Realization of Mechanical Energy Storage Using Underground CO ₂ Capsules
Kyokawa et al.	Understanding the behavior of expansive soil in conventional element tests by HMC coupled FEM simulation considering surface phenomena of mineral crystal
Narsilio et al.	Green hydrogen production: Physical and financial impact of geothermal well heat losses on overall system performance
Vespo et al.	Chemo-mechanical effects of acidic exposure on an Italian carbonate clay
Walter et al.	Underground energy storage by means of injected bentonite double membranes
Xu et al.	Behaviour of carbonate reservoir rocks under hydrostatic cyclic loading for hydrogen storage application
Zhang et al.	Impact of Wettability on Brine Drying and Salt Precipitation in Fractured Rock
Zhou et al.	Optimal Lined Rock Cavern Diameter Selection for Compressed Air Energy Storage
Zhou et al.	Thermal-Hydraulic-Mechanical-Chemical Analysis of Oceanic Carbon Dioxide Hydrate Storage

D - Unconventional hydrocarbon and hydraulic fracturing

Baghbanrezvan et al.	Casing-sediment interaction during gas hydrate dissociation in gas hydrate-bearing clayey-sand: Novel In-Flight Centrifuge Modelling
Chea et al.	Effects of Xanthan Gum as a Promoter on CO ₂ Hydrate Formation in Sandy Soil: A Comparative Study
Chen et al.	Chemically enhanced fluid-driven crack propagation in analogue rock
Chen et al.	Micro- and Macro Mechanism of Shear Behaviour of Gas Hydrate-Bearing Sediment at Various Densities
Fabbri	Modeling Well Stimulation and Heat Production in EGS
Lecampion et al.	A robust numerical solver for the simulation of fluid-driven ruptures on pre-existing discontinuities in fractured rocks
Liu et al.	Stress and salinity sensitivities of the hydraulic permeability in marine sediments during gas hydrate production by depressurization
Machacek	Laboratory Study on Hydraulically Induced Cracks in Cohesive Material: Results and Analysis Using Fracture Mechanics and Probabilistics
Rao et al.	Mechanical characterization of hydrate-bearing sediments using multistage triaxial testing
Rho et al.	Numerical simulation of Rayleigh wave propagation to estimate hydraulic fracture stimulation efficiency
Talebkeikhah et al.	Hydraulic fracture experiments in initially dry sandstones reveal strong poroelastic effects
Uchida et al.	Numerical study on strategies to mitigate sand production risk in gas hydrate reservoirs
Zhai et al.	Permeability damage caused by non-isothermal fluid injection in enhanced geothermal systems

E - High level radioactive waste disposal

Al Mais et al.	Effect of Pore Fluid Chemistry on the Hydro-Mechanical Behaviour of Poorly Indurated Boom Clay
Allache et al.	Impact of Alkaline Perturbations on the Self-Sealing Properties of Callovo-Oxfordian Claystone
Almasri et al.	High-Temperature THM Behavior of Bentonite: Experimental and Numerical Study
Alpaydin et al.	Thermal Effects on the Hydraulic Conductivity of Bentonite Mixtures in Short- and Long-Term Conditions
Boubakeur et al.	Modelling the micro- and mesoscopic hydromechanical behaviour of damaged Callovo-Oxfordian claystone
Chandan Malagar et al.	Fracture characteristics in normally consolidated Boom clay under Direct shear conditions
De Jong et al.	Using X-ray computed tomography to characterise the composition and integrity of clay cores
De Kock et al.	Hydro-mechanical behaviour of Boom Clay investigated through high capacity uniaxial, oedometric and triaxial compression tests.
Eizaguirre et al.	Multiscale characterisation and modelling of the hydromechanical-gas behaviour of a bentonite-sand mixture
Fallah et al.	Effects of Poro-Mechanical Coupling on Fracture Propagation Around a Pressurized Excavation
Gonzalez-Blanco et al.	Mini-cell for studying microstructural changes during gas transport through X-ray micro-CT
Huang et al.	Modelling the effects of heterogeneity on two-phase flow in clays
Kim et al.	Hele-Shaw experiments on radial water infiltration dynamics into bentonite-based engineered barrier systems with technological voids
Lu et al.	Volume change and hydraulic behavior of compacted granular bentonite under elevated temperatures
Mesa-Alcantara et al.	Gas transport behaviour of bentonite/sand mixtures used in sealing systems
Michalon et al.	Modelling the excavation damaged zone considering the influence of the anisotropic mechanical behaviour of sedimentary rocks with the discrete element method
Nada et al.	Numerical Simulation of Heat Dissipation from Deep Geological Repository of Radioactive Waste in Granitic Rocks
Nishimura	Gas generations for some bentonite materials under isotropic conductivity on heat effect
Noh et al.	Feasibility: the Free-Free Resonant Column (FFRC) Method to Assess Damages in Compacted Bentonite Blocks under High-Temperature Conditions
Ren et al.	Laboratory and numerical investigation on the poro-elasto-visco-plastic behaviour of in-situ heated Callovo-Oxfordian claystone
Ruan et al.	Temperature effect on swelling pressure and water movement of bentonites during saturation
Sahin et al.	Thermo-Hydro-Mechanical Behavior of a Clay-Pellets Mixture Intended for Barrier Systems
Sanchez-Avellaneda et al.	Impact of Groundwater Chemistry on the Swelling Behavior of Compacted Bentonite for High-Level Nuclear Waste Disposal
Sedighi et al.	Modelling the reactive transport processes in compacted bentonite – chemical reactions at negative water pressure
Tengblad et al.	Validity of the ideal gas hypothesis in the near field of high-level radioactive waste or spent nuclear fuel storage
Torres-Serra et al.	Exploring the role of the granular skeleton on the swelling pressure of heavily compacted bentonite/sand mixtures
Urano et al.	Effect of Sand Particle Size and Dry Density on Bentonite Penetration Behaviors into Sand Voids
Urraca et al.	Inspection on thermo-mechanical effects in modelling bentonite behaviour over 100°C
Villar et al.	Hydro-Mechanical Evolution of a Two-Component Bentonite Barrier for Radioactive Waste Disposal
Yoshino et al.	Hydro-mechanical properties for unsaturated-saturated Volclay bentonite
Zambranonarvaez et al.	Assessing the Potential of Deep Borehole Disposal for Intermediate-level Nuclear Waste Management in Western Canada - DeepSAFE
Zeng et al.	Particle size evolution of granular bentonite upon wetting and loading

F - Other geotechnical activities related to the energy sector

Akhtarshenas et al.	Comparing Mechanical Behavior of Frozen Soils to Pure Ice at Comparable Temperatures
Alturki et al.	Material Point Method Simulation of Suction Caisson Installation in Clay
Ávila	Exploring the energy geotechnics situation and perspectives in Colombia
Badreddine	Geotechnical and Structural Vulnerability in Coastal Urban Areas: Applying the VULNERAP Method for Seismic Resilience in Casablanca
Barjasteh	Seismotectonic aspects of wind farm development in Khuzestan Province, Iran
Bella et al.	Environmental Modelisation of Coal Mine Tailing Valorised in Road Construction
Cerfontaine et al.	Effect of particle size on plain and rotary axial jacking of piles for offshore applications
Chihping et al.	Determination of Hydraulic Parameters T and S to Air-conditioning System by Using Circulating Groundwater
Dao et al.	Numerical Modelling of Pore Water Pressure Change around the Anchor Chain During Installation
Fok et al.	Experimental study on Instability Mechanisms of Tailings Dams
Ghalandari et al.	Ground Source Hydronic Heated Pavement Systems for De-Icing and Snow Melting: Opportunities and Challenges in Sustainable Infrastructure
Hossain et al.	Analytical And Numerical Investigation of The Site Response Period in The Saguenay Region, Eastern Canada
Joudieh et al.	Evaluating the role of key thermo-hydro-mechanical parameters in artificial ground freezing of silty sand
Kim et al.	Terminal void ratio evolution of natural marine sediments under cyclic loading
Medrano Caballero et al.	Behaviour of shallow foundations of photovoltaic panels: a literature review
Nouri et al.	Performance Evaluation of a Novel Steam-Based Thawing Method for Permafrost Regions
Park	Three-dimensional ultimate pullout capacity of shallow rock anchors for floating offshore structures
Tian et al.	An Experimental Study on Strength and Permeability of Soil Treated with AC-assisted Microbially Induced Carbonate Precipitation
Tomac et al.	Anchorage of Floating Wind Turbines in Deep Water Applications
Xue et al.	Applying the microcapsule-based self-healing microbial-induced calcium carbonate materials to Pb fixing under harsh pH conditions