

InterPore2025

Monday, 19 May 2025

Poster: Poster Session I (09:55 - 11:25)

time	[id] title	presenter
09:55	[130] On the grain drag in sands induced by polymer fluid flows	SUO, Si
09:55	[68] From Fracture Roughness to Fault Conductivity: A Probabilistic Framework for Multi-Scale Uncertainty in CO2 Leakage Risk Assessment	Dr PEREZ, Sarah
09:55	[404] A Hybrid Multi-Objective Optimization and Machine Learning Approach for Integrated CCS System Design	Prof. MIN, Baehyun
09:55	[208] Learning Pore-scale Multi-phase Flow from Experimental Data with Graph Neural Network	WEN, Gege
09:55	[597] The Implications of Anisotropic Relative Permeability in Commercial Scale Geologic Carbon Sequestration in Heterogeneous Formations	LARSON, Richard
09:55	[345] Molecular dynamics insights into hydrogen storage in porous media	LEE, Hyeonseok
09:55	[298] Adsorption and diffusion of shale gas in nanopores with different mineral cleavage surfaces: Insights from density functional theory and molecular simulations	Prof. YIN, Xiaolong
09:55	[108] Impact of Biotic Reactions on Hydrodynamics of UHS: A Pore-Scale Study	FAROUGHI, Salah A
09:55	[69] Pore-scale insights on hysteretic behaviour during cyclic injection in porous media	GAN, Yixiang
09:55	[53] Investigating hydrogen behavior in shale nanopores using small-angle neutron scattering	NEIL, Chelsea
09:55	[147] Fluid Inertia and Symmetry-Breaking Generate Global Chaotic Mixing in Laminar Porous Media Flows	YANG, Weipeng
09:55	[237] DuMux – an open-source simulator for solving flow and transport problems in porous media with a focus on model coupling	KOSTELECKY, Anna Mareike
09:55	[654] Numerical parametric analysis of Triply Periodic Minimal Surfaces with deep learning	Prof. BOCCARDO, Gianluca
09:55	[684] RepoTREND - A Simulation Tool for Safety Analysis of Final Repository for Radioactive Waste	REICHE, Tatiana
09:55	[712] Evolution of Capillary Trapping of scCO2 Under Repeated Drainage-Imbibition (D-I) Cycles on Bentheimer Sandstone.	ADESOLA-OLABIYI, Shukrah
09:55	[706] Directionality of Thermal Diffusive Transport in Subsurface Carbon Dioxide and Hydrogen Storage	Dr HERRING, Anna

Poster: Poster Session II (15:05 - 16:35)

time	[id] title	presenter
15:05	[703] Development of Deep Learning Based Method for Pore Identification of Core CT Images	ABU-AL-SAUD, Moataz

15:05	[78] Surrogate Modeling of Heat Transfer in Heterogeneous Geothermal Reservoirs Using Finite Volume Informed Graph Neural Network	Mr NAJAFI-SILAB, Reza
15:05	[58] Determining Tracer Dispersion Properties in Porous Media Using the Galerkin Physics-Informed Neural Network Approach	Mr CONSTANTE, Luis
15:05	[428] Sensitivity Analysis and Experimental Design on Relative Permeability and Capillary Pressure Parameters in Experimental USS Core Flooding Data	Mr DE MELLO STIEVEN, Gianfranco
15:05	[393] Experimental investigation of hydrogen and cushion gas mixing during underground hydrogen storage in porous reservoirs	GOMEZ MENDEZ, Ianna
15:05	[243] Mathematical Modeling of Carbonated Waterflooding: Analytical Solutions for Low-Carbon Enhanced Oil Recovery	Mr AGUIAR, Saulo
15:05	[610] Competitive Adsorption of Methane and Carbon Dioxide on High-Specific-Surface Geomaterials: Insights from NMR Relaxation and GCMC Simulations	Dr GUERRERO, Camilo
15:05	[380] OPTIMIZATION OF GEOLOGIC CARBON SEQUESTRATION: EFFECT OF FLOWRATE ON NONWETTING PHASE CONNECTIVITY.	ENEBE, Daniel
15:05	[585] Interaction between water and point defects inside volume-constrained α -quartz: An ab initio molecular dynamics study at 300 K	CHOUDHURI, Deep
15:05	[124] Modelling Anomalies in Non-Ideal Gas Dispersion during Underground Hydrogen Storage	Prof. NIASAR, Vahid
15:05	[371] Advancing Reactive Transport Simulations: The Impact of Advective/Diffusive Mineral Accessibility in Sandstones	BECKINGHAM, Lauren
15:05	[112] Impact of Particle Shape on Permeability in Unconsolidated Sandstone: Implication from Synthetic Models of Digital Rock Physics	Mr TAKABAYASHI, Katsumo
15:05	[246] Anomalous Transport in Dissolving Porous Media: Transitions Between Fickian and Non-Fickian Regimes	DENG, Jingxuan

Tuesday, 20 May 2025

Poster: Poster Session III (10:05 - 11:35)

time	[id] title	presenter
10:05	[445] Enhanced hydrocarbon removal from porous media: pore-scale investigation using polymer and alcohol solutions	AITKHOZHA, Zhansaya
10:05	[358] Operando visualization of thermogenic fluid and fracture development in shale	SONG, Wen
10:05	[696] Measuring Dissolution of Calcium in Natural Limestone via Microscopy and ICP-MS	SEABURN, Brittney
10:05	[453] Induced Seismicity Event Detection using Multi-station Time-frequency-Based Machine Learning Models at a geologic carbon storage site	LIZAMA, Daniel
10:05	[251] Quantifying the yield envelope of geomaterials at elevated temperatures	RODRIGUES VIEIRA, Kaina
10:05	[63] Structure Tensor-Based Identification of Laminated Rocks in μ -CT Digital Rock Images	BEVILAQUA FOLDES GUIMARÃES, Felipe
10:05	[18] Semi-supervised Auto-segmentation Model for Enhanced Geomaterial Analysis	Ms TIAN, Qinyi
10:05	[214] Multi-scale Characterization of H ₂ Storage in Heterogenous Carbonate Reservoirs	Dr SINGH, Kamaljit
10:05	[77] Cauliflower shapes of bacterial clusters in the off-lattice Eden model	Mr KACZMARCZYK, Szymon
10:05	[85] A new phase diagram for fluid invasion patterns as a function of pore-scale heterogeneity, surface roughness, and wettability	GEISTLINGER, Helmut
10:05	[234] Biogeochemical Conditions Impacting Hydrogen Storage in Gypsum-Anhydrite-Rich Salt Caverns	BARKELEW, Julia
10:05	[181] Variations in 3D Biofilm Growth Patterns Under Anaerobic and Aerobic Growth Conditions	LAUTERBACH, Julia
10:05	[617] Exploratory Modeling of the transport of nptII antibiotic-resistance gene and its interactions with ambient DNA in real soil columns	GINN, Timothy

Poster: Poster Session IV (15:05 - 16:35)

time	[id] title	presenter
15:05	[660] Enhanced Wellbore Integrity Through Pumice-Modified Cement Systems: A Novel Approach for Hydrogen Storage Applications	ASARE, Leonard Kobina
15:05	[144] Mineral precipitation shaped by flow, reaction and deposition kinetics	ZHAO, Benzong
15:05	[561] Investigation of the impact of microbial activity and biofilm formation on multiphase flow in porous media using X-ray micro-CT.	JONES, CJ
15:05	[499] Total Cost of Dissipative Transport in Poriferan Aquiferous Systems	KRAUS, Emile
15:05	[541] Mesoscale modeling of electrochemical reactive transport in Unitized Reversible Fuel Cells	GOSWAMI, Navneet
15:05	[355] Numerical Solvers for Stationary Diffusion Problems in Digital Rock Physics	SIEGERT, Mirko

15:05	[279] Coupling an immersed boundary method with local front reconstruction for modeling highly accurate contact line dynamics	RIEDER, David
15:05	[308] Current State of Exploring Dissolution and Precipitation Processes in Deep Geothermal Reservoirs of the Ruhr Area	Dr BALCEWICZ, Martin
15:05	[724] Phase redistribution in heterogeneous porous media during periods of no-flow	Dr BOON, Maartje
15:05	[721] Separating 3d-elements by reactive nanopores within functionalized zirconium-based metal-organic framework	SONG, Boyoung
15:05	[487] Correlative characterization of fluid flow and solute transport in disordered porous media via fast micro-computed tomography	Dr KUROTORI, Takeshi

Wednesday, 21 May 2025

Poster: Poster Session V (10:05 - 11:35)

time	[id] title	presenter
10:05	[257] Pore-scale modeling and simulations of microbially induced carbonate precipitation in 3D geologic media through the micro-continuum approach	Ms LI, Xueying
10:05	[92] Modeling water imbibition in porous ceramics using Richards equation: Insights into saturation dynamics and role of material properties	HASAN, ABUL BORKOT MD RAFIQUL
10:05	[381] Extending the reach of microbes in precipitating carbonates for geologic gas storage	SONG, Wen
10:05	[549] Brady's Geothermal Field Computed Tomography Core Characterization	GILL, Magdalena
10:05	[545] High-Resolution Computed Tomography Dataset of Mount Simon Sandstone	COLLINS, Catherine
10:05	[536] High-pressure and High-temperature Fluid Flow system in the MOGNO Beamline for Time-Resolved Tomography	Dr DE OLIVEIRA, Everton Lucas
10:05	[416] Contaminant Transport Modelling using FEFLOW in Eastern Coastal State of India	SAHU, Kamalakanta
10:05	[244] Mechanical Performance of Accelerated Carbonated Concrete	NIU, Geng
10:05	[200] Role of Surface Roughness and Fracture Aperture in Enhancing CO ₂ Mineralization in Synthetic Olivine Fractures	YANG, Yun
10:05	[254] Semi-analytical solutions for nonequilibrium PFAS transport in heterogeneous vadose zones	CHEN, Sidian
10:05	[269] Evaluation of Entrained Air Void Structure in Fly Ash Concrete Using Foam Index Test and 4D X-ray Micro-CT	TIWARI, SONIYA
10:05	[13] Complete Grain Segregation Under Submerged Conditions in a Rotating Drum	CHEN, Yu
10:05	[652] Transport of plant-based and enteric viruses in homogenous saturated porous media	COBBINAH, Emmanuel

Poster: Poster Session VI (15:05 - 16:35)

time	[id] title	presenter
15:05	[425] Dual Energy X-Ray CT for Improving the Characterization of Clay-Rich Sandstones	PRODANOVIC, Masa
15:05	[723] Transformative Effects of Nano-MgO Integration in Electrokinetic Soil Conditioning: A Systematic Analysis of Expansive Clay Stabilization	ZULFEQAR, Najibullah
15:05	[211] Miscible pore-scale flow and transport under variable fluid viscosity	EDERY, yaniv
15:05	[340] Exploring impacts of fungal biofilms on porous media flow	FONG, ChunKi
15:05	[105] Case study for determination of safety mud window and analysis of fluid characteristics for wellbore stability in shale by coupling THMC method	LANG, Yue
15:05	[651] Identification of Hydraulic Backbones in Discrete Fracture Networks with Genetic Algorithms and Localized Graph Contraction	SHAVER, Ryan "Emmy"
15:05	[650] The efficacy of heat sensitive epoxy foam for permeability alteration in fractured geothermal fields – Laboratory experiments	YUTONG, Cui

15:05	[395] Impacts of Accessible Surface Area on CO ₂ Mineralization in Basalt Formations	SHIN, Hyungchul
15:05	[392] Optimizing Operational Parameters for PFAS Permeable Reactive Barrier Emplacement	AHMADI, mj
15:05	[439] Understanding the Time-Dependent Deformation of Microporous Carbons Due to Adsorption	KOLESNIKOV, Andrei
15:05	[427] Impact of Synthetic Laminar and Vugular Heterogeneities on USS Core Flooding Outputs	Dr HENRIQUE DIAS, Caroline
15:05	[612] Bacterial chemotaxis and dispersion in crowded environments	PAHLAVAN, Amir
15:05	[535] Microscale Processes, Macroscale Solutions: Biofilms in Sustainable Water Filtration	DE WINTER, Matthijs
15:05	[437] Tracking Biomineralization in Shale Fractures with Magnetic Resonance Velocimetry (MRV) and Computed Microtomography (Micro-CT)	Dr CRANDALL, Dustin

Thursday, 22 May 2025

Poster: Poster Session VII (10:35 - 12:05)

time	[id] title	presenter
10:35	[718] Intercalation of TCE and PFAS Into Interlayer Spaces of Montmorillonite Clay and Sediment-Associated Clay Minerals	MATTHIEU, Donald
10:35	[693] Benchmark for Investigating Coupled Hydro-Geochemical Processes with Gas Production	WEGNER, Lara
10:35	[524] The synergistic role of pore geometry and wettability in governing immiscible displacement and entry capillary pressure	ZHOU, Tongke
10:35	[412] About approaches to large-scale simulation of CO ₂ plume characteristics at realistic conditions	BOGDANOV, Igor
10:35	[149] Effects of fluid density and inertia on solute transport at fracture intersections: Visual laboratory experiments and pore-scale numerical simulations	DECHDACHO, Porraket
10:35	[117] Dynamics of pore-scale protean droplets in porous media	MEER, David
10:35	[159] Experimental Study on the Recovery of Immature and Low-Maturity Shale Oil Using In-Situ Combustion	ZHANG, Hong
10:35	[565] X-Ray Microtomography for Evaluating Groundwater in-situ Chemical Remediation at Pore-Scale	LOPES ARCHILHA, Nathaly
10:35	[505] Numerical modeling of Complex Fluid injection for LNAPL displacement: Insights from 1D Column Experiments	OMIRBEKOV, Sagyn
10:35	[31] Photons interactions with porous ink layer of a print and image output	Dr TOMOZEIU, Nicolae
10:35	[530] Assessing water damage to gas permeability using bundle-of-tubes with triangular cross-section	Prof. YIN, Xiaolong
10:35	[537] Understanding the role of cryosuction on flow and transport in partially frozen porous media	LOUISE, Eleanor
10:35	[710] Assessment of the Effectiveness of 2.5D Pore-Scale Modeling	YOON, Hyunjee

Poster: Poster Session VIII (15:45 - 17:15)

time	[id] title	presenter
15:45	[678] Transport and fractionation of explosive byproduct gases through sorptive geomedia	Dr ELDRIDGE, Daniel
15:45	[168] Effects of Pore-Scale Three-Dimensional Flow and Fluid Inertia on Mineral Dissolution	Mr LEE, Woonghee
15:45	[206] Investigation of Transport and Retention of a Novel Sub-microgel in Porous Media	LIU, Junchen
15:45	[343] New approach to evaluate breakthrough pressure using MICP	Dr NAGATA, Rodrigo
15:45	[290] Advancing Pore-Scale Measurements: Enhancing Curvature and Contact Angle Analysis for Immiscible Two-Phase Flows in Porous Media	ALJABERI, Faisal
15:45	[629] Quantifying low concentration in-situ field partitioning of PFAS in vadose zone sediments	COOKSON, Esther

15:45	[398] Understanding the influence of fracture network characteristics and fluid density on solute transport in sedimentary fractured rocks	DECHDACHO, Porraket
15:45	[609] Experimental Investigation of Fiber-Foam Multiphase Flow	MCMASTER, Anthony
15:45	[569] Experimental study on permeability evolution due to salt crystallization at the REV scale	Dr DERLUYN, Hannelore
15:45	[570] Water and Soil Moisture Impacts on Dust Storm Emissions	DASHTIAN, Hassan