

Session Program

May 30, 2022 to June 2, 2022



InterPore2022

Poster

Mon, May 30

9:40 AM

Poster: Poster Session 1

Session

9:40 - 10:50 AM

Low-field NMR studies to investigate the effects of salinity in the behaviour of brines within porous media.

Speaker

Mr Aristarchos Mavridis

9:40 - 10:50 AM

Pore level vs. continuum level model for solar thermochemical fuel production

Speaker

Mr Da Xu

9:40 - 10:50 AM

Quantifying risks of salt contamination of freshwater aquifers during Aquifer Thermal Energy Storage

Speaker

Ms Geraldine Regnier

9:40 - 10:50 AM

Toward integration of NMR and traditional centrifuge capillary pressure curves: A comparison study

Speakers

George Yabesh, Dr Ausama Giwelli

9:40 - 10:50 AM

Hydrate growth and electrical properties modeling based on digital rock techniques

Speaker

Dr Haitao Tian

9:40 - 10:50 AM

Modeling Microbial Enhanced Oil Recovery (MEOR) Optimization Augmented with Formation Damage Mitigation Within Sandstone Core Under Adverse Subsurface Oil-Field Conditions

Speaker

Mr Susmit Chakraborty

9:40 - 10:50 AM

The First Experimental Design and Application of Large Horizontal Well Spacing Superheated Steam Flooding for Thin Heavy Oil Reservoir in Bohai Bay

Speaker

Guangming Pan

9:40 - 10:50 AM

Test of multi task XGBoost model and its application in Maokou-1 Member, east Sichuan Basin

Speaker

Mr Keran Li

9:40 - 10:50 AM

Parameter estimation for unsaturated flow with an efficient encoder-decoder convolutional neural network**Speaker**

Mr Mohammad Reza Hajizadeh Javaran

9:40 - 10:50 AM

Study on laboratory measurement method of anisotropic permeability based on passive differential pressure ratio**Speaker**

Dr Xuehao Pei

9:40 - 10:50 AM

Experiment and model of multi-scale dynamic diffusivity and permeability for gas(CH₄/He) flow in micro-nano pores in series connection of coal**Speaker**

Dr zhiqiang Li

9:40 - 10:50 AM

Molecular investigation on sorption-induced kerogen deformation and its impact on gas transport**Speaker**

Mr Jian Wu

9:40 - 10:50 AM

Molecular Dynamics Study of Carbonated Water Confined in Nano Slit Illite Pore: Effect of the Layer Charge**Speaker**

Dr Masashige Shiga

9:40 - 10:50 AM

The degree and law of the influence of microscopic pore structure on permeability in digital rocks**Speaker**

Dr Xiaobin Li

9:40 - 10:50 AM

Pore-scale displacement and trapping mechanisms for underground hydrogen storage**Speaker**

Maksim Lysyy

9:40 - 10:50 AM

Enhanced Super Resolution Generative Adversarial Network (ESRGAN) for improving the resolution of micro-CT images**Speaker**

Dr Mohamed Regaieg

10:50 AM

3:10 PM

Poster: Poster Session 2

Session

3:10 – 4:20 PM

Capillary sealing efficiency of caprock: Implications for hydrogen and carbon-dioxide geo-storage**Speaker**

Mr Amer Alanazi

3:10 – 4:20 PM

Modeling contrast perfusion and adsorption in the 3D heart**Speaker**

RODRIGO Weber dos SANTOS

3:10 – 4:20 PM

Characterisation and Comparison of Algal Biochar at Different Pyrolysis Temperatures**Speaker**

Dr Kamal Elyasi Gomari

3:10 – 4:20 PM

Digital Rock Physics as a Tool for Upscaling Cores Petrophysical Properties from Pore to Continuum Scale**Speaker**

Mr Mohamed Mahrous

3:10 – 4:20 PM

Use of semi-automatic deep learning algorithms for the segmentation and classification of cavities in carbonate fault rocks**Speaker**

Dr Joyce Schmatz

3:10 – 4:20 PM

On the CO₂/caprock interaction based on quantitative image analysis from in-situ x-ray tomography**Speaker**

Eleni Stavropoulou

3:10 – 4:20 PM

Bubble Dynamics on Hierarchical Porous Nickel Phosphide Electrode for Electrocatalytic Water Splitting**Speaker**

Ms Lin Yuan

3:10 – 4:20 PM

A novel microfluidic PEM water electrolyzer cell for the study of counter-current two-phase flow at the anode side**Speaker**

Supriya Bhaskaran

3:10 – 4:20 PM

Groundwater contamination in the north-east of the UK: Exploring and projecting pollution trends using the Environment Agency data archives

Speaker

Mrs Nouha Samlani

3:10 - 4:20 PM

Wetting/drying mechanisms associated with nanoconfined salt solutions: an optical reflectance study on vapour phase imbibition and adsorption**Speaker**

Dr Sujeet Dutta

3:10 - 4:20 PM

A molecular dynamics study on CO₂ enhanced shale gas recovery in kerogen nanopores**Speaker**

Dr Cheng Chen

3:10 - 4:20 PM

Adsorption and Transport Behaviors of Shale Oil in Kerogen Slit by Molecular Dynamics Simulation**Speaker**

Mr Liu Jie

3:10 - 4:20 PM

Space-time upscaling of reactive transport in porous media**Speaker**

Dr Nicolae Suciu

3:10 - 4:20 PM

3D reactive transport modeling of laboratory-scale CO₂ injection in limestone leading to wormhole formation**Speaker**

Mrs Atefeh Vafaie

3:10 - 4:20 PM

Optimization of operational parameters for geological hydrogen storage in a saline aquifer - Sothern North Sea Case Study**Speaker**

Mr Saeed Harati

3:10 - 4:20 PM

Design and Fabrication of 4D Fresnel Lenses for Optical and Thermal Sensing Applications**Speaker**

Haider Butt

3:10 - 4:20 PM

The SOPHIE initiative - The first interlaboratory comparison of the wet end of the soil water retention curve**Speaker**

Benjamin Guillaume

3:10 - 4:20 PM

Permeability estimation in the low-porous rock sample using the Navier-Stokes equation at slip and no-slip conditions

Speaker

Dr Paweł Madejski

3:10 - 4:20 PM

Novel techniques in X-ray nanotomography, scanning electron microscopy and cryogenic focused ion beam microscopy Linking structure and catalytic properties of heterogeneous and automotive catalysts in three dimensions

Speaker

Andy Holwell

3:10 - 4:20 PM

Experimental Research and Application of Fracture Stress Sensitivity

Speakers

Junjie Liu, jian xiong

4:20 PM

Tue, May 31

9:20 AM

Poster: Poster Session 3

Session

9:20 - 10:30 AM

Pore-scale two-phase flow simulation of volcanic gas reservoir based on Volume of Fluid method

Speaker

Quan Xu

9:20 - 10:30 AM

Foam plugging performance and flow characteristics in fracture system

Speaker

Dr Zhengxiao Xu

9:20 - 10:30 AM

Performance evaluation on temporary plugging of magnetic responsive hydrogel in hydraulic fracturing of hydrocarbon reservoirs

Speaker

Prof. Mingliang Luo

9:20 - 10:30 AM

Adsorption of methylene blue from solution using pomegranate and orange peels powder

Speaker

Dr Asma Jedidi

9:20 - 10:30 AM

Characterization of water transport in building porous materials based on an analytical spontaneous imbibition model

Speaker

Mingliang Qu

9:20 - 10:30 AM

Physics Informed Neural Networks for Fluid Flow in Porous Media

Speaker

Waleed Diab

9:20 - 10:30 AM

Direct comparing the permeability derivation from Images: Empirical Modeling vs Physics-Based Simulation vs Deep Learning

Speaker

Prof. Lingyun Kong

9:20 - 10:30 AM

A multi-dimensional parametric study of variability in multi-phase flow dynamics during geologic CO2 sequestration accelerated with machine learning

Speaker

Hao Wu

9:20 - 10:30 AM

An optimization-based method for upscaling carbonate volumetric image data**Speaker**

Mr Anup Kumar Shahi

9:20 - 10:30 AM

Pore-scale imaging of asphaltene deposition with permeability reduction and wettability alteration**Speaker**

Yihuai Zhang

9:20 - 10:30 AM

Simulation of turbulent mixing in channels with reactive boundary conditions**Speaker**

Alisdair Soppitt

9:20 - 10:30 AM

Pore structure characterization and seepage law analysis of tight reservoir**Speaker**

Dr Liang Jiao

9:20 - 10:30 AM

Pore-Scale Modelling of Hydrogen Transport in Porous Media**Speaker**

Mr Shaobin Cai

9:20 - 10:30 AM

Digital Rock Techniques to Study Physical Properties of Hydrate-Bearing Sediments: Considering Hydrate Distribution Patterns**Speaker**

Yuqi Wu

9:20 - 10:30 AM

Wave-induced fluid flow in fractal porous media**Speaker**

Dr Shanshan Jiang

9:20 - 10:30 AM

Study on quantitative identification method for lithology of pyroclastic rock**Speaker**

Dr Gang Hu

10:30 AM

3:20 PM

Poster: Poster Session 4**Session**

3:20 - 4:30 PM

Print Quality and Particles: pore-scale simulations of particles/liquid interaction with printing substrate**Speaker**

Hamed Aslannejad

3:20 - 4:30 PM

Experimental study on porosity and permeability characteristics of unconventional reservoir under overburden pressure

Speaker

Xinliang Chen

3:20 - 4:30 PM

A Potential Energy based Lattice Boltzmann Model for Two-Phase Flow in Fractured Porous Media**Speaker**

Dr Zhongkun Niu

3:20 - 4:30 PM

Two-equation macroscopic continuum model for drying capillary porous media: Benchmarking against pore network model simulations**Speaker**

Mr Faez Ahmad

3:20 - 4:30 PM

Computational and experimental microfluidics for geosciences**Speaker**

Sophie Roman

3:20 - 4:30 PM

Effects of porous media morphology on two-phase fluid displacement and distribution**Speaker**

Harris Rabbani

3:20 - 4:30 PM

Wettability Restoration of Reservoir Rocks: A Comparison between Static and Different Dynamic Methods**Speaker**

Mr Amin Rezaei

3:20 - 4:30 PM

2D Particle Tracking Velocimetry in Multiphase Flow in Porous Media**Speaker**

Mingjia Xu

3:20 - 4:30 PM

Simplified simulation of two-phase flow in karst conduits in carbonate rocks**Speaker**

Ms Uebert Gonçalves Moreira

3:20 - 4:30 PM

Design of a model for the prediction of petrophysical properties from microstructural image data**Speaker**

Joyce Schmatz

3:20 - 4:30 PM

CO2 storage site characterization using variational autoencoders**Speaker**

Jonghyun Lee

3:20 - 4:30 PM

Surrogate models for aquifer management**Speaker**

Dr VANESSA A. GODOY

3:20 - 4:30 PM

Chromatographic Effects in Inkjet Printing

Speaker

Prof. Anton Darhuber

3:20 - 4:30 PM

Complex Fluids - Thin Porous Materials Interactions revealed via Electrical Impedance Spectroscopy (EIS)

Speaker

Dr Nicolae Tomozeiu

3:20 - 4:30 PM

Imaging and chemical analysis of ureteral stent encrustation and incrustation

Speaker

Brian Berkowitz

3:20 - 4:30 PM

Numerical study of single droplet drying in an acoustic levitator

Speaker

Mr Martin Doß

4:30 PM

Wed, June 1

9:20 AM

Poster: Poster Session 5

Session

9:20 - 10:30 AM

Experimental study on silylated polyacrylamide based relative permeability modifiers in porous carbonate gas cores

Speaker

Mr Liming Qin

9:20 - 10:30 AM

High Precision Saline Intrusion Modelling in Heterogeneous Aquifers using Dynamic Mesh Optimisation

Speaker

Pablo Salinas

9:20 - 10:30 AM

Experimental study on production law of fault-controlled type fractured-cavity reservoir

Speaker

Mr Wanjiang Guo

9:20 - 10:30 AM

Experimental Investigation of Relative Permeability Curves in Oil/water Transition Zone of Tight Sandstone Reservoir

Speaker

Dr Min Ma

9:20 - 10:30 AM

Effect of pore structure characteristics on imbibition recovery of shale with different fabric facies

Speaker

Dr Qinghao Sun

9:20 - 10:30 AM

Cr(III)-entrapped Nanocapsules Obtained via W/O/W Double Miniemulsion Nanoprecipitations of Hydrophobic Polymers for Delaying HPAM Gelation

Speaker

Dr Jingyang Pu

9:20 - 10:30 AM

Impact of Novel Nano-particle Solutions on Foam Stability, Wettability Reversal and Interfacial Tension Reduction

Speaker

Dr Seyed Mojtaba Hosseini-Nasab

9:20 - 10:30 AM

Insights into Upscaling of Modeling of Thermal Dispersion in Geothermal Doublets

Speaker

Dr Jinyu Tang

9:20 - 10:30 AM

Heterogeneous nucleation and precipitation on solid surfaces: Experimental observation of calcium carbonate formation on primary and secondary substrates**Speaker**

Dr Mohammad Nooraiepour

9:20 - 10:30 AM

Effect of physicochemical properties and structural heterogeneity on reactive transport in saturated porous media**Speaker**

Ms Xueying Li

9:20 - 10:30 AM

3D Microscale Flow Simulation of Newtonian and Shear Thinning Fluids in Sandstone and Carbonate Samples**Speaker**

Dr Mehdi Amiri

9:20 - 10:30 AM

Micro experimental study on residual oil of marine carbonate rocks during water flooding based on CT scanning**Speaker**

Wenlong Jing

9:20 - 10:30 AM

Microporosity-permeability relationship for complex South East Asia carbonate reservoir**Speaker**

Mr Wen Pin Yong

9:20 - 10:30 AM

Challenges for Microfluidic Devices in Representing Flow in Geological Formations**Speaker**

William Rossen

9:20 - 10:30 AM

Steady State Two-Phase Flow Relative Permeabilities in Microfluidic Devices**Speaker**

Mr Ewald Obbens

9:20 - 10:30 AM

The influence of Wettability and flow rates on two-phase fluid displacement in porous media: Pore scale experimental visualization and numerical simulations**Speaker**

Peixing Xu

9:20 - 10:30 AM

Experimental Studies on Permeabilities of Thin Fibrous Materials**Speaker**

Luwen Zhuang

9:20 - 10:30 AM

Investigation of coupled processes in fractures and the bordering matrix via a micro-continuum reactive transport model**Speaker**

Qian Zhang

10:30 AM

9:20 - 10:30 AM

Characterization of Fluid-Fluid Interactions in Heterogeneous Porous Media**Speaker**

Artur Shapoval

2:50 PM

Poster: Poster Session 6**Session**

2:50 - 4:00 PM

Evaluation of fluid flow behavior and trapped non-wetting phase saturation with modified pore morphological approach in clastic reservoirs**Speaker**

Mr Gordon Burmester

2:50 - 4:00 PM

The Effect of Interfacial Elasticity of a Nanofluid/Surfactant system for EOR through a Visual Micromodel Study**Speaker**

Mr Hector Bonilla

2:50 - 4:00 PM

The influence of gas bubble interfaces on the acoustic properties of partially saturated poroelastic media**Speaker**

Dr Patrick Kurzeja

2:50 - 4:00 PM

Numerical Investigations on the Dissolution Characteristics of CO₂ in Fractured Porous Media using Density Driven Modelling**Speaker**

Dr Manojkumar Gudala

2:50 - 4:00 PM

Montecarlo simulations of gas transportation in multifractal shale reservoirs**Speaker**

Paul Naveen

2:50 - 4:00 PM

The Effect of Power Law Index on Shift Factor for Shear Thinning Fluids by 3D Microscale Flow Simulation**Speaker**

Mehdi Amiri

2:50 - 4:00 PM

Application of Lattice Boltzmann Method in Pore-scale Characterisation of Flow Dynamics in Three-Dimensional Porous Medium

Speaker

Mr Mehrdad Vasheghani Farahani

2:50 - 4:00 PM

Hydrodynamic instabilities of immiscible fluids in a Hele-Shaw cell**Speaker**

Chekib Ghabi

2:50 - 4:00 PM

Evaluation of saturation of tight sandstones using dielectric logs: Ordos Basin, China**Speaker**

Dr Peiqiang Zhao

2:50 - 4:00 PM

Decontamination-induced contaminant redistribution in porous media**Speaker**

Emily Butler

2:50 - 4:00 PM

Experimental evaluation of percolation in evolution of flow**Speaker**

Samaneh Vahid Dastjerdi

2:50 - 4:00 PM

Microfluidic experiments on constrained oil remobilization induced by water transport in the oil phase**Speaker**

LIFEI YAN

2:50 - 4:00 PM

A Novel Analysis Method for Water Breakthrough Mechanism in an Offshore Heavy Oil Reservoir with Bottom Water**Speaker**

Guangming Pan

2:50 - 4:00 PM

The Influence of Imaging Contrast Agents on Emulsification under Flow Conditions**Speaker**

Ahmad Kharrat

2:50 - 4:00 PM

Particle migration and deposition at the pore scale: Eulerian-Lagrangian approach**Speaker**

Dr Saeid Sadeghnejad

4:00 PM

Thu, June 2

10:10 AM

Poster: Poster Session 7

Session

10:10 - 11:20 AM

Effect of grain size and distribution on the two-phase flow at pore scale

Speaker

Dr Yin Chen

10:10 - 11:20 AM

Dependence of hydraulic conductivity on effective confining pressure in rocks and concretes

Speaker

Kotone Sakemoto

10:10 - 11:20 AM

Predicting thermal potential of a shallow ground to support design of low-temperature district heating and cooling networks

Speaker

Shakil Masum

10:10 - 11:20 AM

Geochemical studies of CO₂-Brine-Rock interaction at surface and subsurface conditions during geological storage of carbon dioxide

Speaker

Mr Edigwe Jude

10:10 - 11:20 AM

Investigation of different clay activation techniques to capture and store carbon dioxide (CO₂)

Speaker

Ms Cindy Chomba

10:10 - 11:20 AM

Study on the dominant factors of rock permeability

Speaker

Dr Kai Xu

10:10 - 11:20 AM

A fast hybrid method of reconstructing 3D digital rock

Speaker

Mr Ping Feng

10:10 - 11:20 AM

Improved micro-continuum approach for pore scale simulation of capillary dominated flow with lower spurious velocities

Speaker

Zhiying Liu

10:10 - 11:20 AM

INFLUENCE OF SiO₂ NANOFUID ON ENHANCED OIL RECOVERY INSIDE A TRANSPARENT MICROPOROUS MEDIA**Speaker**

Dr Afshin Goharzadeh

10:10 - 11:20 AM

Novel Fabrication of Microfluidic Devices with Mixed Wettability**Speaker**

Abdullah AlOmier

10:10 - 11:20 AM

Dynamic pore-network modeling of compositional flow and nanoconfined phase behavior in shale rocks**Speaker**

Sidian Chen

10:10 - 11:20 AM

MODELLING OF FREEZING AND THAWING EXPERIMENTS OF SATURATED SAND COLUMN**Speaker**

Martina Sobotkova

10:10 - 11:20 AM

Microplastics Effects on Evaporation Dynamics and Cracking Morphology in Drying Porous Media**Speaker**

Prof. Nima Shokri

10:10 - 11:20 AM

Polymeric Membranes' Morphology and Water Flow Simulation**Speaker**

Dr Meixia Shi

11:20 AM

3:15 PM

Poster: Poster Session 8**Session**

3:15 - 4:25 PM

Development of a salt-impregnated SAPO-34 porous matrix with graphene oxide for water sorption applications**Speaker**

Ms Samar Abd Elwadood

3:15 - 4:25 PM

Salt precipitation and its impact on rock porosity - An X-ray micro-tomography study**Speaker**

Pavel Kazakovtsev

3:15 - 4:25 PM

Numerical modelling of CO₂ sequestration in coal-seams based on a parallel hybrid discrete fracture - dual porosity model**Speaker**

Shakil Masum

3:15 – 4:25 PM

Digitizing and Exploring 16 Years of the Registry of Contaminated Sites in the state of São Paulo, Brazil**Speaker**

Ms Nouha Samlani

3:15 – 4:25 PM

Chemotaxis promoted bacterial transport toward residual NAPL in a dual-permeability microfluidic device**Speaker**

Ms Beibei Gao

3:15 – 4:25 PM

Three-dimensional fractal model of hydraulically fractured horizontal wells in anisotropic naturally fractured reservoirs**Speaker**

Rosa María Mariscal Romero

3:15 – 4:25 PM

Pore-scale modelling of polymeric solutions in porous media**Speaker**

Ms Amna Al-Qenae

3:15 – 4:25 PM

Comparison of Pore-network Simulation and Infiltration Experiment Performed on Coarse Sand**Speaker**

Mr Tomas Princ

3:15 – 4:25 PM

Local wettability characterization of porous media under two-phase conditions using lattice-Boltzmann simulations**Speaker**

Hamidreza Erfani Gahrooei

3:15 – 4:25 PM

Modeling digital twins of grain-based reservoir rocks**Speaker**

Dr Arne Jacob

3:15 – 4:25 PM

Effects of compaction on pore structure and soil hydraulic properties**Speaker**

Mr Soheil Safari Anarkouli

3:15 – 4:25 PM

Film-to-pore filling transition during water adsorption in nanoporous media**Speaker**

Abdullah Cihan

3:15 – 4:25 PM

Molecular dynamics of a fluid confined in kerogen from memory kernels**Speaker**

Ms Kristina Ariskina

3:15 - 4:25 PM

Extended Allen-Chan phase-field equation for ternary fluid flows and phase-change process in binary fluid flows

Speaker

Mrs Reza Haghanihasanabadi

3:15 - 4:25 PM

Microfluidic model of micro-haemodynamics in porous media

Speaker

Qi Chen

3:15 - 4:25 PM

Production and characterization of porous sludge-derived biochar as a sustainable solution for the water industry

Speaker

Andre Frota

3:15 - 4:25 PM

Estimating the structure of a spatially layered media from the radial flow experiments with shear-thinning fluids

Speaker

Martin Lanzendörfer

3:15 - 4:25 PM

Agrochemical Transport in Heterogeneous Agricultural Soils

Speaker

Veronica Morales

4:25 PM