

Session Program

30 May 2022 to 2 June 2022



InterPore2022

MS07

Tuesday 31 May

10:30

MS07: Parallel Oral Session 4D

Session

10:30–10:45

Simulation of reactive transport in heterogeneous porous media with a Newton-Krylov method

Speaker

Michel Kern

10:45–11:00

An enhanced branch and bound algorithm for phase stability testing of multicomponent mixtures

Speaker

Martin Jex

11:00–11:15

Modeling of Multicomponent Flow in Porous Media using Higher-Order Methods

Speaker

Petr Gális

11:15–11:30

A numerical approach to incorporating shear thinning effects of polymer in polymer flooding.

Speaker

Prof. Prabir Daripa

11:30–11:45

Development and experimental validation of lattice Boltzmann method-based simulator for vapor transport in air over a moist soil layer

Speaker

Jakub Klinkovský

11:45–12:00

Phase-wise Conservative and Physics Preserving Algorithms for Porous Media Flow

Speaker

Prof. Shuyu Sun

12:00–12:15

Thermodynamics-Informed Neural Network for Phase Equilibrium in Subsurface Reservoirs

Speaker

tao zhang

12:15–12:30

Tightly Coupled Hyperbolic Treatment of Buoyant Two-Phase Flow and Transport in Porous Media

12:30

Speaker

Prof. Patrick Jenny

Wednesday 1 June

10:30

MS07: Parallel Oral Session 7D

Session

10:30–10:45

The numerical solution of the micro-scale phase-field equation and its role in a two-scale two-phase flow model.

Speaker

Manuela Bastidas

10:45–11:00

Upscaling of phase-field models for two-phase flow based on fluid morphology

Speaker

Mr Mathis Kelm

11:00–11:15

Micro-macro models for reactive two-mineral systems

Speaker

Nadja Ray

11:15–11:30

A phase-field approach to model evaporation in porous media: Upscaling from pore to Darcy scale

Speaker

Mr Tufan Ghosh

11:30–11:45

Upscaling and Automation: Pushing the Boundaries of Multiscale Modeling through Symbolic Computing

Speaker

Kyle Pietrzyk

11:45–12:00

Population Balance Equation for Porous Media: Upscaled Dynamics and Evolution

Speaker

Nicodemo Di Pasquale

12:00–12:15

Influence of Pore Morphology on Mechanical Properties of Second Gradient Materials

Speaker

Pania Newell

12:15

14:05

MS07: Parallel Oral Session 8D

Session

14:05–14:20

A multipoint stress-flux mixed finite element method for the Stokes-Biot fluid poroelastic structure interaction model

Speaker

Ivan Yotov

14:20–14:35

Reliable and efficient error estimates for nonlinear flow processes using linear iterative schemes

Speaker

Dr Koondi Mitra

14:35–14:50

Positive DDFV scheme for degenerate parabolic equations arising from infiltration problem

Speaker

Prof. Mazen Saad

14:50

Thursday 2 June

11:20

MS07: Parallel Oral Session 11D

Session

11:20–11:35

Numerical Analysis of a Mixed Finite Element Approximation a Model of Biofilm Growth in Porous Media

Speaker

Dr Azhar Alhammali

11:35–11:50

Differentiation in biological porous media: a role for diffusiophoresis and surface instabilities

Speaker

Prof. Jacques Huyghe

11:50–12:05

A One-domain approach for flow near porous media boundaries

Speaker

Dr Didier Lasseux

12:05–12:20

Linear lignin as a potential consolidant for archaeological wood treatment: a hybrid Monte Carlo and molecular dynamics study

Speaker

Ali Shomali

12:20

13:30

MS07: Parallel Oral Session 12D

Session

13:30–13:45

An efficient preconditioning framework for the coupled simulation of contact mechanics with hydraulically active fractures

Speaker

Laura Gazzola

13:45–14:00

Simulation of interface-coupled porous-medium applications using partitioned coupling methods

Speaker

Alexander Jaust

14:00–14:15

Coupled flow in porous media with thin inclusions: preconditioning based on rational approximations of the fractional interface operators

Speaker

Prof. Svetozar Margenov

14:15–14:30

Solvers for Coupled PDE Problems in Porous Media Science

Speaker

Dr Arne Naegel

14:30–14:45

Coupled Thermo-Hydro-Mechanical-Chemical Analysis of CO₂ Injection in a North Sea Chalk Reservoir

Speaker

Mr Seyedbehzad Hosseinzadeh

14:45–15:00

Numerical modelling the hydromechanical behavior of undrained triaxial tests on saturated concrete

Speaker

Mr Jinzhou Bai

15:00–15:15

Numerical investigation of the flow and phase transitions of CO₂ near its triple-point during a blowout from a plugged well

Speaker

Pramod Bhuvankar

15:15