



MCERI Annual Meeting
Margaritaville Lake Resort Lake Conroe
600 Margaritaville Pkwy
Montgomery, Texas

October 31-November 1, 2024

Agenda

DAY 1 – Thursday, October 31, 2024

- 7:30 AM Breakfast
- 8:30 AM Opening Remarks
Akhil Datta-Gupta and Michael J. King, Texas A&M University (15 min)
- 8:45 AM CO2 Plume Imaging with Accelerated Deep Learning Using Distributed Pressure and Temperature Measurements at the Illinois Basin-Decatur Project
Takuto Sakai (25 min)
- 9:10 AM Physics Informed Machine Learning for Reservoir Connectivity Identification and Production Forecasting for CO2-EOR
Masahiro Nagao (25 min)
- 9:35 AM Multi-Resolution Simulation for Efficient Pressure & Stress Calculations in Large-Scale CO2 Storage Using Pseudo-steady State Pressure as Spatial Coordinate
Kazuyuki Terada (25 min)
- 10:00 AM Field-Scale Optimization of CO2 Injection Schedule with Critical Pressure and Plume Boundary: Coastal Bend, Texas Gulf Coast
Jia Fu (25 min)
- 10:25 AM Break (20 min.)
- 10:45 AM Fast Marching Method: A New Paradigm for Rapid Multiscale Multi-Resolution Simulation of Enhanced Geothermal Systems
Chin Hsiang Chan (25 min)
- 11:10 AM CO2 Plume Monitoring and Injection Optimization Using Pathlines, Source Clouds and Time Clouds: Field Application at the Illinois Basin-Decatur Carbon Sequestration Project
Ao Li (25 min)
- 11:35 AM Improved Pressure Transient Interpretation for Unconventional Reservoirs Utilizing Transient Drainage Volume
Ismail Mohamed (25 min)
- 12:00 PM Lunch (75 min.)
- 1:15 PM **Industry Presentation**
Unconventional Production Optimization and Forecasting Using Hybrid Physics Models
Dr. Sathish Sankaran, Xecta Digital
- 1:45 PM SWIFT/Sim for Scalable Flow Simulation
Mike King (10 min)



- 1:55 PM Novel Multiscale Full Field Simulation Applied to Rapid Calibration of Geologic Models
Yaser Alghawi (25 min)
- 2:20 PM Streamline-Based Robust Rate Allocation Optimization for Polymer Flooding Considering Geological Uncertainty
Ruxin Zhang (20 min)
- 2:40 PM Break (20 min.)
- 3:00 PM A Better Mousetrap? The Applicability of Explainable Boosting Machines (EBM) as a “Glass box” Modeling Paradigm for Improved Model Interpretability During Supervised Learning
Sauvik Das (20 min)
- 3:20 PM Rapid CO2 Huff-n-Puff Simulation using Fast Marching Method in Embedded Discrete Fracture Model
Sompoom Nippayaporn (20 min)
- 3:40 PM Development and Application of Unstructured Coarse Gridding and Upscaling of Geologic and Reservoir Models for Flow Simulation".
Turgut Ahmadov (15 min)
- 3:55 PM Grid Connectivity Transform-based Heterogeneity in Deep Learning Calibration Workflow for CO2 Injection Plume Imaging in a Saline Aquifer
Alexander White (15 min)
- 4:10 PM Discussion and Wrap-up
Michael J. King and Akhil Datta-Gupta, Texas A&M University (30 min.)
- 5:00 PM Reception
- 6:00 PM Dinner

DAY 2 – Friday, November 1, 2024

- 7:30 AM Breakfast
- 8:00 AM Opening Remarks
Akhil Datta-Gupta and Michael J. King, Texas A&M University
- 8:15 AM DESTINY: Streamline Tracing, Visualization and History Matching
Takuto Sakai
- 9:15 AM Fast Marching Based Simulation of Unconventional Reservoirs (FMM-SIM)
Chin Hsiang Chan
- 10:15 AM Break
- 10:45 AM SPADES: Novel Production Data Analysis for Unconventional Reservoirs Using Transient Drainage Volume
Ismail Mohamed
- 11:15 AM SWIFT: Upgridding and Upscaling of Full Field Geomodels
Yaser Alghawi
- 12:00 PM Lunch and Adjourn