



TEXAS A&M UNIVERSITY

Harold Vance Department of
Petroleum Engineering

MCERI Annual Meeting (Virtual)

November 5-6, 2020

Agenda

DAY 1 – Thursday, November 5, 2020

- 9:00 AM Opening Remarks
Akhil Datta-Gupta and Michael J. King, Texas A&M University (15 min)
- 9:15 AM Hybrid Physics and Data-Driven Modeling for Unconventional Field Development - Onshore US Basin Case Study
Jaeyoung Park (25 min)
- 9:40 AM Efficient Physics-Informed Neural Networks for Modeling Unconventional Reservoirs Using Diffusive Time of Flight
Tsubasa Onishi (25 min)
- 10:05 AM Computing Pressure Front Propagation Using the Diffusive Time of Flight in Structured and Unstructured Grid Systems Via the Fast Marching Method
Hongquan Chen (25 min)
- 10:30 AM Break (20 min.)
- 10:50 AM Robust CO₂ Plume Imaging Using Joint Tomographic Inversion of Distributed Pressure and Temperature Measurements
Changqing Yao (20 min)
- 11:10 AM Improved Distance Based Upgridding and Diffuse Source Upscaling for High Resolution Geologic Models
Issac Liu (20 min)
- 11:30 AM Guest Presentation – Occidental Petroleum USA
Yuxin Ben (30 min)
- 12:00 PM Guest Presentation – Los Alamos National Laboratory
Hari Viswanathan (30 min)
- 12:30 PM Introductions (10 min.)
- 12:40 PM Lunch (50 min.)
- 1:30 PM **SPADES: Data Driven Analysis of Unconventional Reservoirs**
Jaeyoung Park (45 min)
- 2:15 PM **DESTINY: Streamline Based History Matching and Reservoir Management/Optimization**
Changqing Yao (60 min)
- 3:15 PM **MEETING ADJOURNED**



DAY 2 – Friday, November 6, 2020

- 9:00 AM Data-Driven Rate Optimization under Geologic Uncertainty
Deepthi Sen (25 min)
- 9:25 AM 3-D Rapid Coupled Flow and Geomechanics Simulation Using the Fast Marching Method
Kazuyuki Terada (25 min)
- 9:50 AM Flow Visualization Using Streamlines in Dual Porosity Dual Permeability Reservoir Models
Hongquan Chen (25 min)
- 10:15 AM Detailed Fault Modeling at the Azle Site and the Site-Specific Seismological Model to Assess Potential Induced Seismicity
Jaeyoung Park (25 min)
- 10:40 AM Break (20 min.)
- 11:00 AM Introductions (10 min)
- 11:10 AM Polymer Flood Injection Rate Optimization under Operational Constraints
Ao Li (20 min)
- 11:30 AM Data Driven Reservoir Modeling using Recurrent Neural Network for Texas CO₂-EOR Field
Masahiro Nagao (20 min)
- 11:50 AM Application of the Diffusive Time of Flight to a Data Driven Approach for Decline Curve Analysis
Venkata Chavali (20 min)
- 12:10 PM Discussion and Wrap-up
- 12:40 PM Lunch (60 min.)
FMM Simulation: Technology Transfer Presentation
- 1:40 PM **GRACE**
Masahiro Nagao / Tsubasa Onishi (45 min)
- 2:10 PM **SWIFT**
Issac Liu (45 min)
- 2:55 PM **MEETING ADJOURNED**