



TEXAS A&M UNIVERSITY

Harold Vance Department of
Petroleum Engineering

MCERI Annual Meeting

Omni Houston Hotel at Westside, 13210 Katy Freeway Houston, Texas 77079

November 7-8, 2019

Agenda

DAY 1 – Thursday, November 7, 2019

- 7:30 AM Breakfast
- 8:00 AM Opening Remarks
Akhil Datta-Gupta and Michael J. King, Texas A&M University (30 min)
- 8:30 AM Fast Marching Method Based Rapid Flow Simulation Accounting For Gravity
Tsubasa Onishi (25 min)
- 8:55 AM Modeling Hydraulically Fractured Shale Wells Using the Fast Marching Method with Local Grid Refinements (LGRs) and Embedded Discrete Fracture Model (EDFM)
Xu Xue (25 min)
- 9:20 AM Rapid Modeling of Injection and Production Phases of Hydraulically Fractured Shale Wells Using the Fast Marching Method
Jaeyoung Park (25 min)
- 9:45 AM Multisolution Parameterization and History Matching for Unconventional Reservoirs
Feyi Olalotiti-Lawal / Hyunmin Kim (25 min)
- 10:05 AM Break (25 min.)
- 10:30 AM Streamline-based Polymerflood Rate Allocation Optimization: A Field Application
Hongquan Chen / Jaeyoung Park (20 min)
- 10:50 AM Extension of Fast Marching Method-based Multi-Well Simulation for General Production Scenario
Hye Young Jung (20 min)
- 11:10 AM Rapid Coupled Flow and Geomechanics Simulation Using the Fast Marching Method
Kazuyuki Terada (20 min)
- 11:30 AM Data-Driven Rate Optimization under Geological Uncertainty
Deepthi Sen (20 min)
- 11:50 PM Lunch (60 min.)
FMM Simulation: Technology Transfer Presentation
- 12:50 PM Poster Session (40 min.)
- 1:30 PM **Industry Presentation:** A Hybrid Data and Physics Modeling Approach Towards Unconventional Well Performance Analysis
Diego Molinari, OXY (30 min)
- 2:00 PM Impact of Near Well Upscaling with Application to the Amellago Carbonate Outcrop Model
Ching-Hsien Liu (20 min)



- 2:20 PM Production Data Analysis of Unconventional Reservoirs
Ankit Bansal (20 min)
- 2:40 PM Application of FMM to Multiwell Reservoir Development by Superposition
Kenta Nakajima (20 min)
- 3:00 PM Break (25 min)
- 3:25 PM Reservoir Connectivity Inference from Real-time Dynamic Data
Changqing Yao / Hongquan Chen (20 min)
- 3:45 PM The Impact of Cluster Spacing on Multi-Fractured Well Performance
Xu Xue / Rongqiang Chen (20 min)
- 4:05 PM Multi-Objective Optimization vs. EnKF for History Matching
Denis Zubarev (15 min)
- 4:20 PM Discussion and Wrap-up
Michael J. King and Akhil Datta-Gupta, Texas A&M University (40 min.)
- 5:00 PM Adjourn/Reception
- 6:00 PM Dinner

DAY 2 – Friday, November 8, 2019

- 7:30 AM Breakfast
- 8:00AM Opening Remarks
Akhil Datta-Gupta and Michael J. King, Texas A&M University
- 8:15AM DESTINY: Tracing and Inversion
Changqing Yao
- 9:15 AM FMM Multiwell Implementation
Sai Pochampally, Kelkar and Associates
- 10:15 AM Break
- 10:45 AM GRACE: Optimal Non-Parametric Transformation for Multiple Regression
Rongqiang Chen
- 11:15 AM SPADES: Swift Production Data Analysis and Diagnostics Engine for Shale Reservoirs
Ankit Bansal
- 11:45 AM SWIFT: Upgridding and Upscaling
Imroj Syed
- 12:30 PM Lunch and Adjourn

**Poster Presentations**

Improved Upgridding of High Contrast Geologic Models

By: Imroj Syed

Application of Deep Learning for Production Forecasting and Characterization of Reservoir Connectivity

By: Shyam Kareepadath Sajeev

SPADES: Swift Production Data Analysis and Diagnostics Engine for Shale Reservoirs

By: Ankit Bansal

DESTINY: A Software for Streamline Application

By: Changqing Yao and Hongquan Chen

Cost and Accuracy Assessment of the Discretization of the Eikonal Equation

By: Chen Li (presented by Kenta Nakajima)

Fast Marching Method: A Software for Fast Analysis and Simulation of Unconventional Reservoirs

By: Hye Young Jung

SWIFT: Upgridding and Upscaling

By: Ching-Hsien Liu and Imroj Syed

Hybrid Modeling (Data+Physics) for Unconventional Field Development

By: Jaeyoung Park, Akhil Datta-Gupta, Ajay Singh, Jackson Bi, Sathish Sankaran

Non-Parametric Regression and Data Analytics Using GRACE (Graphical Alternating Conditional Expectation)

By: Rongqiang Chen

Application of Flow Diagnostics to Complex Geologic Grids

By: Tsubasa Onishi