

Technical Program Schedule

Speaker is first author unless indicated by an asterisk (*).

Tuesday Morning, September 26

Approaches to Improve Reservoir Performance

Sponsored by Cabot Oil & Gas

Salon D

Session Co-Chairs: Peter Voice and Craig Eckert

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| 8:00 a.m. | Delineating Compressional Structures Through Refined Geosteering Methods—Chad Koury |
| 8:30 a.m. | Geophysical Characterization of Mississippian Carbonates of South Central Kentucky and Northern Tennessee—Matthew Bentley, Michael T. May and Thomas B. Brackman |
| 9:00 a.m. | Structural and Crustal Evolution of the Pre-Mt. Simon Below West-Central Indiana: Evidence from Seismic Reflection—Andrew M. Parent, Ernest C. Hauser and Doyle R. Watts |
| 9:30 a.m. | Reservoir characterization and 3D Modeling of Silurian Reef Slopes: Pipe Creek Jr. Quarry, Grant County, Indiana —G. Michael Grammer, Jim Karsten, Dennis Prezbindowski*, Benjamin Dattilo, and Jonathan Havens |
| 10:00 a.m. | Break |
| 10:30 a.m. | Depositional Controls on Reservoir Quality in the Dundee-Rogers City Interval: Lithofacies and Production Characteristics—Peter J. Voice and William B. Harrison, III |
| 11:00 a.m. | Assessing Unconventional Resource Potential of Lower Cretaceous Carbonates in the South Florida Basin, USA—Tim E. Ruble and Stephanie Brightwell-Coats |
| 11:30 a.m. | Geoscience evolution: extensive data integration for real time geosteering and modeling in unconventional reservoirs—Vlad Karen Payrazyan, Igor Kuvaev, Igor Uvarov, and Julian Stahl |

Overview and Impact of Shale Production

Salon E

Sponsored by Antero Resources

Session Co-Chairs: Sean Kayser and Kris Carter

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| 8:00 a.m. | Marcellus, Utica/Point Pleasant provide 91% of U.S. shale gas production growth since start of 2012—Olga Popova, Gary Long, Jeffrey Little, Christopher Peterson, Neal Davis, |
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Emily Geary, Andrei Butterfield, Steven Grape, Elizabeth Panarelli, April Volke and Barbara Mariner-Volpe

- 8:30 a.m. Mapping and Reservoir Characterization of Geologic Intervals for NGL Storage Applications—Kristin Carter, Douglas Patchen, Jessica Moore, Mohammad Fakhari, Gary Daft, Phillip Dinterman, Michael Solis, Robin Anthony, Katherine Schmid, Brian Dunst, Antonette Markowski and Stephen Shank
- 9:00 a.m. Challenges with Marcellus Shale Horizontal Exploration Within or Near the Allegheny Highland—Cole Bowers, Energy Corporation of America
- 9:30 a.m. The map that changed the NEW World: the Erie Canal (200th Anniversary) and Amos Eaton—Charles A. Sternbach
- 10:00 a.m. Break
- 10:30 a.m. Mapping reservoir stress conditions using hydraulic fracturing microseismicity—Orlando J. Teran
- 11:00 a.m. Defining the Geologic and Economic Limits of the Marcellus Wet Gas Play—Matthew C. Weinreich
- 11:30 a.m. Permian Basin Activity - Reagan County Texas—Joseph Cook

Tuesday Morning, September 26, Poster Session

Foyer

8:00 a.m-12 noon

Porosity and CO₂ Storage Capacity of the Maryville-Basal Sandstone Section in the Kentucky Geological Survey 1 Hanson Aggregates Stratigraphic Research Well, Carter County, Kentucky—J. Richard Bowersox, Stephen F. Greb and David C. Harris

Analysis of the Conasauga Group and Basal Sandstone (U. Cambrian) in the KGS No. 1 Hanson Aggregates Well, Carter County, Kentucky—Stephen F. Greb, J. Rick Bowersox, and David C. Harris

A Parametric Analysis of Carbon Dioxide Sequestration Potential in Depleted Marcellus Shale Gas Reservoirs—Burak Kulga and Turgay Ertekin

Volumetric and 3-D property modeling of the Grand Tower Formation in the Salem Field, Southern Illinois—Mansour Khosravi Rokrok

Lithostratigraphy of Middle and Upper Devonian Organic-Rich Shales in West Virginia—Susan E. Pool and Ray M. Boswell

The Prediction of Orthorhombic Differential Horizontal Stress Ratio for Shale Reservoir—Ni Ma, Xingyao Yin, Zhaoyun Zong, and Chengyu Sun

Modeling and interpretation of a high-relief Precambrian unconformity on 2D seismic reflection lines near Wabash, Indiana—Michael R. Green, Ernest C. Hauser and Doyle R. Watts

Tuesday Afternoon, September 26

Energy and Environment

Sponsored by Antero Resources

Salon D

Session Co-Chairs: Dan Soeder and Cole Bowers

- 1:00 p.m. Comparative Analysis of Transport and Storage Options from a CO₂- Source Perspective—Tim Grant, David Morgan, Donald Remson, Allison Guinan, Chung Yan Shih, ShangMin Lin, and Derek Vikara
- 1:30 p.m. Using well log analysis to identify residual oil zones at Noble and Kenner West Oil Fields, Illinois—Nathan P. Grigsby, Nathan D. Webb and Scott M. Frailey
- 2:00 p.m. Importance of Basin Tectonics in Alleviating Uncertainty in Carbon Storage Projects—Hannes E. Leetaru, Jared T. Freiburg, Robert A. Bauer, John H. McBride
- 2:30 p.m. Earthquakes and History: Arguments over hydraulic fracturing and arguments over history—Conevery Bolton Valencius
- 3:00 p.m. Break
- 3:30 p.m. Origin of Non-Hydrocarbon Gases in Petroleum Reservoirs – A Review—Christopher D. Laughery
- 4:00 p.m. The Evolving Role of Geoscientists in Climate Change Science—Gregory R. Wrightstone
- 4:30 p.m. 2017 Air Regulation Requirements—Thomas Seguljic

Unconventional Plays

Sponsored by Antero Resources

Salon E

Session Co-Chairs: Randy Blood and Merrill Stypula

- 1:00 p.m. Structural Control of the Point Pleasant Formation Deposition and Production—Devin M. Fitzgerald, M. Wes Casto, and Robert B. Thomas, Sr.
- 1:30 p.m. The origin and evolution of shell beds in Ordovician shales of southwestern Pennsylvania (Point Pleasant and associated units) and their implications for the preservation of organic carbon—Benjamin Dattilo, David R. Blood, and William P. Gilhooly, III

- 2:00 p.m. Quantitative characterization of fracture frequency variations using a linear piecewise regression analysis and the Akaike Information Criterion—Alex P. O’Hara and Robert D. Jacobi
- 2:30 p.m. Identifying Lithosomes of the Marcellus Shale: A Provenance Approach—Amy L. Weislogel
- 3:00 p.m. Break
- 3:30 p.m. Aromatic compounds as maturity indicators and correlation markers - Example from New Albany Shale extracts and oils, Illinois Basin—Donna C. Willette
- 4:00 p.m. Deposition, Diagenesis and Hydrocarbon Generation in the Ordovician Point Pleasant Limestone and the Devonian Marcellus Shale: Comparing and Contrasting Two Appalachian Basin Unconventional Reservoirs—David R. Blood
- 4:30 p.m. An Interpretation of Core Derived Water Saturations Using Water Isotope Analysis—Ashley S. B. Douds, Merril J. Stypula and David R. Blood

Tuesday Afternoon, September 26, Poster Session

Foyer

1:00 p.m.-5:00 p.m.

Meso- and Macro-Scale Facies and Chemostratigraphic Analysis of Middle Devonian Marcellus Shale in Northern West Virginia, USA—Thomas Paronish, Timothy R. Carr, Dustin Crandall and Johnathan Moore

Causation of carbonate cements in sandstones near the overpressured top seal in Niuzhuang Sag of Bohai Bay Basin, China—Zhang Tianjiao and Shanwen Zhang

Geological model and Natural fracture characteristics in carbonate rocks gas reservoir constrained by multi-factors as an example of HT area fractures—Qiqiang Ren, Jin Qiang and Feng Jianwei

Pine Hall Formation: Type section designated – Dan River basin, Stokes Co., North Carolina—Jeffrey C. Reid, Katherine J. Marciniak, Walter T. Haven, and Kenneth B. Taylor

Use of Iodine for Petroleum Exploration—Daniel H. Vice

Direct Kerogen characterization of Marcellus Shale collected from Marcellus Shale Energy and Environment Laboratory—Vikas Agrawal and Shika Sharma

Data-driven Approach to Refine Carbon Storage Efficiency Factors for Regional-scale Offshore Saline Reservoirs—Andrew Bean, Kelly K. Rose, Randal B. Thomas, and Emily M. Cameron

Wednesday Morning, September 27

Devonian-Mississippian

Salon D

Session Co-Chairs: Scott McCleery and Marty Parris

- 8:00 a.m. Organic Matter Content and Thermomaturation Trends in the Ohio and Sunbury Shales, Eastern Kentucky, Central Appalachian Basin—Cortland F. Eble, Paul C. Hackley, Stephen F. Greb*, and Thomas M. Parris
- 8:30 a.m. Porosity and Permeability of Berea Reservoirs (Upper Devonian) in Eastern Kentucky—Stephen F. Greb, Ethan S.L. Davis, and David C. Harris
- 9:00 a.m. Probabilistic Assessment of Tight-Gas Sands Using a Data-Driven Modeling Approach—Emre Artun, Burak Kulga, and Turgay Ertekin
- 9:30 a.m. Pore types, capillary pressure, and diagenetic controls on reservoir quality in the Upper Devonian Berea Sandstone, Eastern Kentucky—David C. Harris, T. Marty Parris and J. Richard Bowersox
- 10:00 a.m. Break
- 10:30 a.m. Molecular and Isotopic Composition of Associated and Nonassociated Gases and Evolution of Gas in the Berea Sandstone, Eastern Kentucky—T. Marty Parris, Paul C. Hackley, Steven F. Greb and Cortland F. Eble
- 11:00 a.m. Oil-source rock correlation studies in the shallow Berea Sandstone, northeastern Kentucky—Paul C. Hackley, T. Marty Parris*, Stephen F. Greb, Cortland F. Eble, and David C. Harris

Geologic & Engineering Approaches to Reservoirs

Salon E

Session Co-Chairs: Brandon Nuttall and Bill Harrison

- 8:00 a.m. Time-Dependent Performance Evaluation of Cyclic Injection of Gas Mixtures into Hydraulically-Fractured Wells in Appalachian Sandstones—Emre Artun
- 8:30 a.m. Kentucky oil history: the approaching 200th anniversary of the Beatty well—Brandon Nuttall
- 9:00 a.m. Optimizing Perforations—David J. Hatton and Payam Kavousi Ghahfarokhi

9:30 a.m. Hilbert Transform of Distributed Acoustic Sensing (DAS) Fiber Optic Data: A New Attribute to Assess Hydraulic Fracturing in Marcellus Shale—Payam Kavousi Ghahfarokhi and Timothy R. Carr

10:00 a.m. Break

10:30 a.m. Performance Forecasting and Characterization of Carbonate Reservoirs Using Data-Driven Models—Emre Artun

Wednesday Morning, September 27, Poster Session

Foyer

8:00 a.m-12 noon

Atmospheric gas concentrations in the pre- and post- production phases of an unconventional oil and gas recovery operation at the MSEEL test site, West Virginia—James P. Williams, Matthew Reeder, Natalie Pekney, John Osborne, Michael A. McCawley, and David Risk

TOC estimation of the New Albany Shale Group and Maquoketa Shale-Using $\Delta\log R$ Evaluation Technique, Southern Illinois—Mansour Khosravi Rokrok and Donna C. Willette

Numerical Validation of Stimulated Reservoir Volume Approach in Shale Reservoirs by using a Compositional, Dual-porosity, Dual-permeability, Multiphase Reservoir Simulator—Burak Kulga and Turgay Ertekin

Modelling of an Ancient Fluvial Depositional Environment Using 3D-Photogrammetry and Paleohydrology, the Middle Pennsylvanian Allegheny Formation, South-Central West Virginia, USA—Olu-Segun Abatan, Amy Weislogel, and B. Mitch Blake

Geologic characterization in preparation for the assessment of oil and gas resources in Upper and Middle Devonian black shales of the northern and central Appalachian Basin—Michael H. Trippi, Catherine B. Enomoto, Debra K. Higley, William A. Rouse and Frank T. Dulong

Counter-regional detachment structures, southwestern Pennsylvania, central Appalachian basin: Implications for Marcellus Shale gas exploration and production—Dengliang Gao, Thomas Donahoe, Taizhong Duan, and Peter Sullivan