

AAPG

20-23 May 2018 • Salt Lake City, Utah

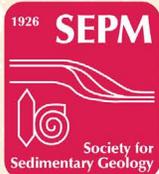
# ACE 2018

ANNUAL CONVENTION & EXHIBITION

## Call For Abstracts

ACE 101: Bridging Fundamentals and Innovation

In conjunction with:



ACE.AAPG.org



# Call for Abstracts Open – Submit Now!

Submit your abstracts by 28 September 2017

The Utah Geological Association is proud to host the AAPG 2018 Annual Convention & Exhibition (ACE) at the Salt Palace Convention Center in Salt Lake City, Utah. With easy access to some of the most extraordinary rocks in the world, Salt Lake City is the ideal location to combine fundamental geology with emerging innovation. Don't miss your chance to share your knowledge and investigate all Utah has to offer.

The Technical Program Committee encourages abstracts with direct application to the industry. In particular, abstracts that deal with the hottest, most relevant play areas, both domestic and international, are most desirable. We also encourage case studies that illustrate the successful implementation of new techniques and technologies. In addition, student participation is a priority – AAPG ACE is an invaluable opportunity to showcase graduate research that advances the industry.

## Theme Descriptions and Subthemes for ACE 2018 Technical Program

### Theme 1: Siliciclastics

Theme 1 covers the full range of siliciclastic sedimentary systems, and the plays and reservoirs that they host. Of particular interest are submissions that emphasize the novel application of analogs, analytical tools, modeling methods, and big data analytics to aid understanding and prediction of siliciclastic reservoir distribution, character, and quality.

#### Subthemes:

- » Analogs for siliciclastic reservoirs: Outcrops, modern systems, experiments, and numerical/digital models
- » Continental depositional systems, plays, and reservoirs
- » Shallow-marine depositional systems, plays, and reservoirs
- » Deepwater depositional systems, plays, and reservoirs
- » Diagenesis and reservoir quality in conventional and unconventional clastic reservoirs (*Joint with Theme 5: Unconventional Resources*)
- » Big data in sedimentary geology: Integrating large datasets and analytics for uncertainty reduction (*Joint with Theme 9: Energy Innovation*)
- » Capturing and evaluating the impact of sedimentologic heterogeneity in reservoir models (*Joint with Theme 2: Carbonates and Evaporites*)

### Theme 2: Carbonates and Evaporites

Carbonate reservoirs hold more than half of the world's hydrocarbon reserves, from the super giants of the Middle East to the largest oil field in Utah, Greater Aneth. Theme 2 will explore all aspects of carbonate reservoirs and applicable analogs including deposition, diagenesis, and reservoir modeling.

#### Subthemes:

- » Carbonate and evaporite depositional systems: Subsurface, outcrop, and modern settings
- » Carbonate diagenesis and reservoir quality
- » Carbonates of Western North America
- » Carbonate slope-to-basin depositional systems
- » Microbial carbonates and reservoirs (*Joint with Theme 7: Lacustrine Systems*)
- » Capturing and evaluating the impact of sedimentologic heterogeneity in reservoir models (*Joint with Theme 1: Siliciclastics*)



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### Theme 3: Unconventional Resources

Unconventional reservoirs are the dominant new drilling targets in North America and are rapidly gaining interest worldwide. Theme 3 addresses challenges and successes in unconventional resource plays ranging from early development to drilling and production. Abstracts should highlight multi-disciplinary approaches to advancing unconventional development.

#### Subthemes:

- » Western U.S. unconventional systems - Bakken, Permian, Cretaceous Foreland Basin shales, etc.
- » North American unconventional systems
- » Global unconventional systems
- » Unconventional drilling innovations: Extended reach laterals and other new ideas
- » Using production data to further geologic understanding of unconventional systems
- » Finding the sweet spot: Insights into resource plays
- » New paradigms in petrophysical evaluation of unconventional resources (*Joint with Theme 6: Geophysics*)
- » Diagenesis and reservoir quality in conventional and unconventional clastic reservoirs (*Joint with Theme 1: Siliciclastics*)

### Theme 4: Geochemistry, Basin Modeling, and Petroleum Systems

Theme 4 explores advances in geochemistry from the molecular scale to petroleum systems modeling. Abstracts should present innovative and multidisciplinary approaches to solving current geochemical questions that face the petroleum industry.

#### Subthemes:

- » Organic and inorganic geochemistry of source rocks
- » Natural gas systems: Advances in understanding hydrocarbon and non-hydrocarbon gases
- » Advances in molecular geochemistry: Unraveling fluid history
- » Insights into production time scale processes: Integrating geochemistry and reservoir engineering
- » Geochemical evaluation and petroleum systems modeling of Greater Rocky Mountain basins
- » New applications and workflows in basin and petroleum systems modeling

### Theme 5: Structure, Tectonics, and Geomechanics

Theme 5 seeks abstracts that address applied structural and geomechanical techniques, provide new process understanding, and highlight new modeling approaches across the range from lithospheric to pore-scale. Submissions that emphasize how integrated structural and geomechanical analyses influence subsurface decision making in exploration, appraisal, and production for conventional and unconventional hydrocarbon systems are of particular interest.

#### Subthemes:

- » Lithosphere, plate, and regional tectonics
- » Onshore basins: Advances in structural understanding
- » Offshore basins: Advances in structural understanding
- » Geomechanics in conventional and unconventional workflows
- » Faults and fractures

### Theme 6: Geophysics

Theme 6 will explore new advances in geophysics and the integration of geophysical, petrophysical, microseismicity, and non-seismic methods to maximize returns from existing fields, exploring for stratigraphic traps, tight reservoirs, and the potential applications and advances provided by geophysical exploration of geothermal resources.

#### Subthemes:

- » Integration of non-seismic geophysical techniques
- » Seismic imaging, processing, and acquisition: New techniques and breakthroughs
- » Machine learning advances and applications (*Joint with Theme 9: Energy Innovation*)
- » New paradigms in petrophysical evaluation of unconventional resources (*Joint with Theme 3: Unconventional Resources*)
- » Microseismicity and induced seismicity: Insights on reservoirs, stress-fields, and development strategies (*Joint with Theme 8: Energy and Environment*)
- » Searching for and discovering stratigraphic traps
- » Integrating petrophysics, lab analyses, and geology
- » Getting the most out of discoveries: Geophysical techniques and advances
- » Hydrocarbons and geothermal exploration techniques: Opportunities for technical exchange and advance (*Joint with Theme 9: Energy Innovation*)



## Theme 7: Lacustrine Systems

Exploration in lacustrine systems has seen a significant resurgence in the past decade with the discovery of massive oil deposits in the south Atlantic pre-salt play. With the 2018 ACE meeting in Salt Lake City, and its proximity to the most famous lacustrine rocks in the world, the Eocene Green River Formation, these unique deposits will take center stage.

### Subthemes:

- » Lacustrine hydrocarbon systems of the South Atlantic region: Source, reservoir, seal, and hydrocarbon quality
- » Fluid flow in lacustrine basin carbonate and clastic reservoirs
- » The Green River Formation and other ancient carbonate and siliciclastic lake systems
- » Modern lacustrine analogs: Great Basin, East Africa, China, and others
- » Controls on hydrocarbon play elements in extensional lake basins
- » Lake basin analysis: Approaches, controls, and contrasts with marine systems
- » Microbial carbonates and reservoirs (*Joint with Theme 2: Carbonates and Evaporites*)

## Theme 8: Energy and Environment

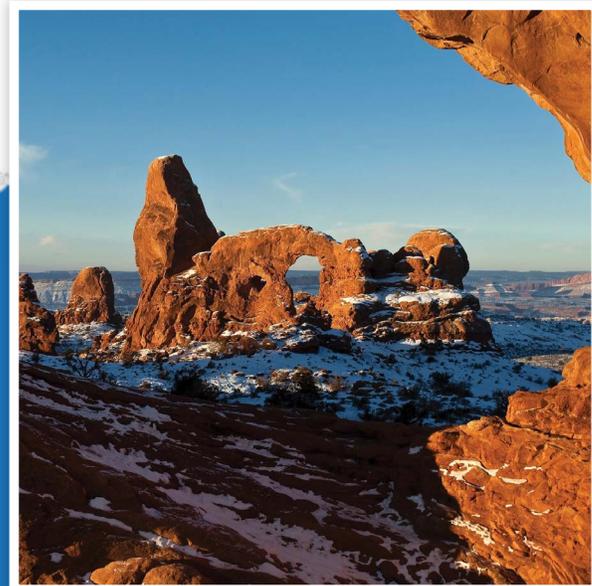
The environmental impact of energy development has always been a very important subject for oil and gas companies, but recent high-profile events have brought this controversial topic to the forefront. Theme 8 will explore the science behind several environmentally sensitive issues and how companies can better communicate solutions to the general public.

### Subthemes:

- » Challenges to the social contract: Hydraulic fracturing, produced water, and seismicity
- » Mitigating environmental impacts in the oil and gas industry
- » Geochemistry of formation waters and fluid migration
- » Surface and groundwater contamination and monitoring
- » Carbon management: From emission through sequestration
- » Fugitive gas emissions: Seeps, leaks, and well integrity
- » Coastal and oceanic environmental challenges
- » Microseismicity and induced seismicity: Insights on reservoirs, stress-fields, and development strategies (*Joint with Theme 6: Geophysics*)

## Theme 9: Energy Innovation

Emphasizing innovation, Theme 9 will highlight emerging science and technologies destined to shape the use of natural energy sources over the next hundred years. Contributions will explore advances in the digital realm that aid geoscientists, nanoscience applications, renewable energy resources, and the resource potential of the solar system.



### Subthemes:

- » Machine learning for exploration and production (*Joint with Theme 6: Geophysics*)
- » Next generation knowledge systems to revitalize opportunities: Making more of what we already know
- » Sensors to models: Real-time updating of geologic models and simulations
- » New technologies for imaging, interrogating, and visualizing subsurface data in 3-D and 4-D
- » Renewable energy integration: Geothermal, solar, wind, and biofuel
- » Nanoscience for production
- » New discoveries in the solar system: Implications for energy and mineral resources
- » Hydrocarbons and geothermal exploration techniques: Opportunities for technical exchange and advance (*Joint with Theme 6: Geophysics*)

## Theme 10: SEPM Research Symposium and Student Research Posters

### *Dynamics of Sediment Transfer Between Linked Depositional Systems: From Rivers to Lakes to Oceans*

The SEPM Research Symposium focuses on records of sediment transfer, with particular attention to stratigraphic perspectives on sediment production, bypass, and storage. Studies may highlight allogenic versus autogenic signals, and the influence of long-term sediment extraction and preservation along source to sink networks in different tectonic settings, climate regimes, etc. Sessions will also explore the petroleum implications of such research, including source and reservoir rock characterization and prediction.

## Theme 11: Student Research Poster Sessions

- » AAPG Student Research Poster Session
- » SEPM Student Research Poster Session

## Special Session: History of Petroleum Geology

The History of Petroleum Geology Committee will again hold its annual forum at the AAPG 2018 ACE. We're looking for papers that illustrate how petroleum geoscientists throughout history have applied the fundamentals of geoscience to innovative breakthroughs. From paradigm shifts in thinking to key technologies that changed our workflow, the industry is full of examples of how the basics were the key to discovery and to advancing petroleum geology.

### Subthemes:

- » Bridging fundamentals and innovation: examples from our past
- » The game-changing discoveries, papers and technologies
- » The history of petroleum exploration in Utah and surrounding areas

Deadline for Submissions is 28 September 2017

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