

AAPG

ACE 2019

ANNUAL CONVENTION & EXHIBITION

19-22 May • San Antonio

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San Antonio





INVITATION FROM THE GENERAL CO-CHAIRS

On behalf of the American Association of Petroleum Geologists (AAPG), its divisions, the Society for Sedimentary Geology (SEPM), and host societies—the Austin Geological Society (AGS) and the South Texas Geological Society (STGS), it is our pleasure to invite you to join us at the Henry B. Gonzalez Convention Center in San Antonio, Texas 19-22 May for the AAPG 2019 Annual Convention and Exhibition (ACE).

ACE will provide attendees with a high-quality technical program relevant to those who have the responsibility of finding and producing the hydrocarbons that fuel the needs of our society. The implementation of a “Call for Session Proposals” helped us find the pulse on what’s important to you so the presentations meet your expectations and your needs. We want to thank you for your input and proactivity during the summer. Your counsel shaped this program and it is an exceptionally good one!

The convention showcases exciting new additions that will help embrace technological advances and the challenges of designing a sustainable future in alignment with the good stewardship of our planet. The technical program committee, headed by Peter Hennings and Chris Zahm, have worked very hard to support this vision and as General Co-Chairs we want to extend our most sincere gratitude for your efforts.

AAPG received more than 1,800 abstracts that underwent a rigorous peer-reviewed process. Evaluation criteria included scores as well as diverse range of topics and participants. The selection was narrowed down to 400 oral and 500 poster contributions coming from presenters working both in industry and academia. This diversity makes the program one of the strongest to date.

All traditional topics will be covered from siliciclastic systems and carbonate reservoirs, to geochemistry, structure, and geophysics, but there are a few surprises. A new theme covering machine learning, digitalization, and artificial intelligence has been added, along with presentations on business and finance. These are the big additions — but invited sessions such as the “Innovation and Technology in Biostratigraphy for Challenging Times” seek to revitalize subdisciplines that are crucially important but somehow under-represented most years.

ACE 2019 is also a celebration of our profession, our people, and our contributions. This year, the sedimentological community will dedicate a special session on applied ichnology to honor the legacy of Professor George S. Pemberton. In addition, the salt tectonic community will offer multiple sessions in honor of Dr. Martin Jackson. The outpouring of support to make these special sessions materialize is a testament to the tightness of our geosciences community.





It would be impossible to host an ACE meeting in Texas without talking about unconventional resources. From advances in unconventional characterization to a dedicated “Permian Basin Source to Sink” session, attendees will have access to a very diverse selection of contributions dealing with this topic. There will be field trip offerings to the Delaware Basin, the South Texas Eagle Ford and Austin Chalk, and to the OAE outcrops of Central Texas. One-day field trips will be also offered around the San Antonio area, including an exciting visit to the Brazos River and the IODP core repository in College Station to see the effects of the K-Pg impact in this part of the world. The short course listing is as diverse and impressive as previous years, but it will include a strong digital component with the “Advance Analytics – Machine Learning 101” course sponsored by AAPG PROWESS in addition to two more machine learning offerings. We recommend that attendees book field trip and short course selections early!

With the 300-year-old city of historic San Antonio serving as the backdrop, you’ll also have some excellent opportunities to learn more about its deep multicultural history, experience some of its major local attractions, and even get a feel for how the local geology impacted its development! Be sure to take advantage of the additional day trips planned to visit the many natural springs and associated Spanish missions, local cave systems, or even a special opportunity to sample the fine wines of the Texas Hill Country. Finally, if you’re looking for a true cultural immersion, attend the San Antonio Charreada – a tribute to the centuries-old customs associated with the Mexican adoration of the horse. A truly international equestrian art form on display.

We hope you are able to join us in San Antonio, Texas, next May. It will be a time to share and learn new things, a time to talk about the challenges of the future. We look forward to seeing you in the Lone Star State.



LORENA MOSCARDELLI AND EDWARD VALEK
General Co-Chairs
AAPG 2019 Annual Convention and Exhibition

2019 SPONSORS (as of 17 December)

DIAMOND



Registration, Student and Faculty Lounge, PROWESS Short Course, SEPM Short Course #6, SEPM Field Trip #1



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MEDIA & SUPPORTING ORGANIZATIONS



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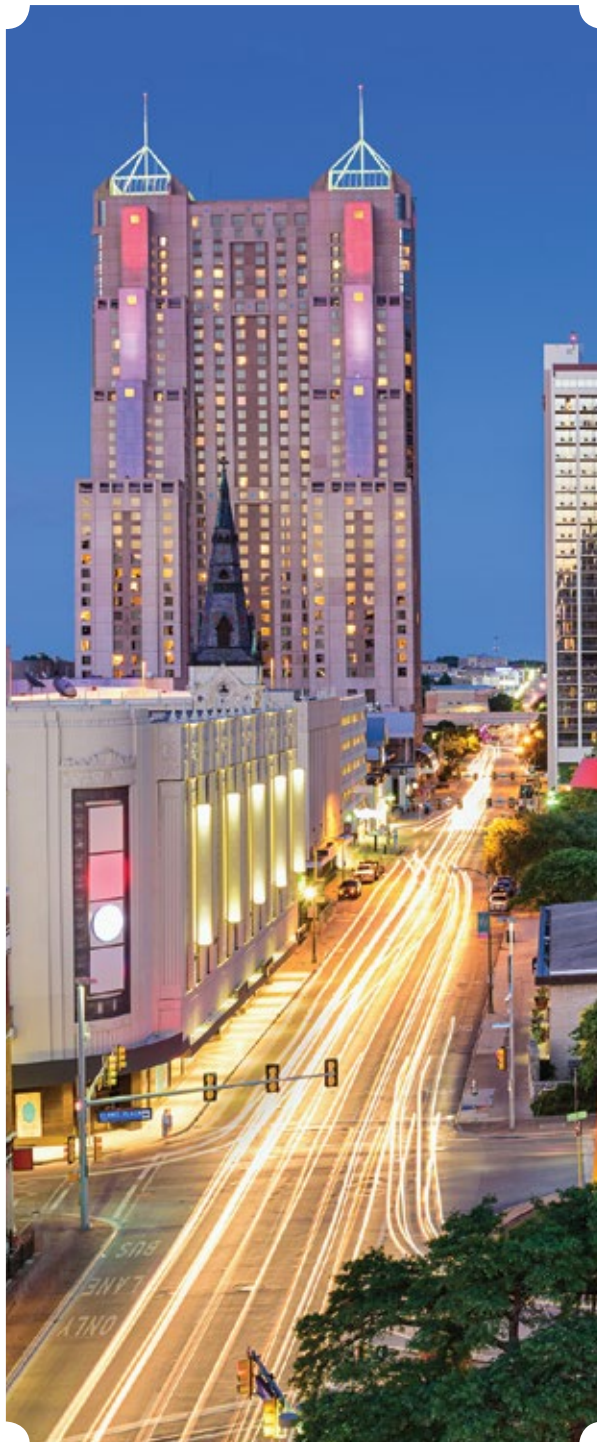
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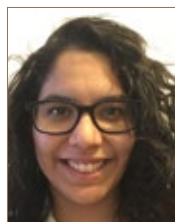
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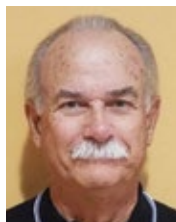
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Rachelle Kernen
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ACE AT A GLANCE (as of 17 December)

All events take place at the Henry B. Gonzalez Convention Center unless otherwise noted.

Friday, 17 May

1:00 pm–5:00 pm Registration

Saturday, 18 May

9:00 am–5:00 pm Registration
6:00 pm–7:30 pm AAPG HoD/PROWESS/DEG Networking Reception (Grand Hyatt San Antonio)

Sunday, 19 May

9:00 am–6:00 pm Registration
11:35 am–2:40 pm Step Changes in Petroleum Geology: Historical Challenges and Technological Breakthroughs
2:00 pm–3:00 pm Young Professionals Meet & Greet
3:00 pm–3:30 pm AAPG/AAPG Foundation Imperial Barrel Award (IBA) Ceremony
4:00 pm–5:00 pm Opening Session and Awards Ceremony
5:00 pm–7:30 pm Exhibition and Icebreaker Reception

Monday, 20 May

7:30 am–5:30 pm Registration
8:00 am–3:00 pm Guest Hospitality Suite (Grand Hyatt San Antonio)
8:00 am–1:50 pm Oral Sessions (Morning)
8:30 am–12:00 pm Poster Sessions (Morning)
8:30 am–5:00 pm Career Center
9:00 am–6:00 pm Exhibition
9:00 am–6:00 pm Student and Faculty Lounge
9:15 am–10:15 am Refreshment Break
10:00 am–2:30 pm Guest Tour: Grand Historic City Tour
10:00 am–5:00 pm Guest Tour: Texas Hill Country
11:30 am–1:15 pm All-Convention Luncheon
1:15 pm–5:05 pm Oral Sessions (Afternoon)
1:15 pm–5:05 pm Discovery Thinking Forum
1:30 pm–5:00 pm International Pavilion Theatre
1:30 pm–5:00 pm Poster Sessions (Afternoon)
2:30 pm–3:30 pm Refreshment Break
4:00 pm–6:00 pm Student Career Seminar (Grand Hyatt San Antonio)
5:00 pm–6:00 pm End-of-Day Reception
5:10 pm–6:00 pm Michel T. Halbouty Lecture
5:30 pm–7:30 pm All-Alumni Reception (Grand Hyatt San Antonio)
6:00 pm–8:00 pm AAPG/SEPM Student Reception (Grand Hyatt San Antonio)
7:00 pm–10:00 pm SEPM Research Group Meetings and Reception (Marriott Riverwalk)

Tuesday, 21 May

7:30 am–5:30 pm Registration
8:00 am–11:50 am SEPM Research Symposium
8:00 am–3:00 pm Guest Hospitality Suite (Grand Hyatt San Antonio)
8:00 am–11:50 am Oral Sessions (Morning)
8:30 am–12:00 pm Poster Sessions (Morning)
8:30 am–5:00 pm Career Center
9:00 am–2:00 pm Guest Tour: Historic Pearl Brewery
9:00 am–3:00 pm Guest Tour: Gruene Historic District
9:00 am–6:00 pm Exhibition
9:00 am–6:00 pm Student and Faculty Lounge
9:15 am–10:15 am Refreshment Break
9:30 am–5:00 pm International Pavilion Theatre
11:30 am–1:00 pm DPA Luncheon: Re-Inventing Yourself to Stay Relevant in an Ever-Changing Geoscience Technical Climate
12:00 pm–1:00 pm SEPM Business Meeting Luncheon: Seismic Geomorphology – From the Earth's Ocean Depths to the Distal Planets, A Revolution in Reconstructing Landscape Form and Processes
1:15 pm–2:40 pm The Big Crew Change: Passing the Baton and Challenges Awaiting Mid-Career Geoscientists
1:15 pm–5:05 pm SEPM Research Symposium
11:15 am–5:05 pm Oral Sessions (Afternoon)
1:30 pm–5:00 pm Poster Sessions (Afternoon)
2:30 pm–3:30 pm Refreshment Break
3:20 pm–5:05 pm DEG Special Session: Environmental Impact and Sustainability
5:00 pm–6:00 pm End-of-Day Reception
6:00 pm–9:30 pm Social Activity: San Antonio Charreada
7:00 pm–9:00 pm SEPM President's Reception and Awards Ceremony (Marriott Riverwalk)

Wednesday, 22 May

7:30 am–2:00 pm Registration
8:00 am–12:00 pm Guest Hospitality Suite (Grand Hyatt San Antonio)
8:00 am–11:50 am Applied Ichnology Session
8:00 am–11:50 am Oral Sessions (Morning)
8:30 am–12:00 pm Poster Sessions (Morning)
8:30 am–12:00 pm Guest Tour: San Antonio Shoe Factory
8:30 am–2:00 pm Career Center
9:00 am–1:00 pm Guest Tour: Spanish Missions
9:00 am–2:00 pm Exhibition
9:00 am–2:00 pm Student and Faculty Lounge
9:15 am–10:15 am Refreshment Break
9:30 am–11:30 am International Pavilion Theatre
11:30 am–1:00 pm DEG/EMD Luncheon: Global Energy Transition—An Uncertain Outcome Driven by Developments in Policy, Technology, and Behavior
1:15 pm–5:05 pm Oral Sessions (Afternoon)

Pre- and post-convention Short Course and Field Trip information can be found on pages 88–91.



Highlights

Step Changes in Petroleum Geology:
Historical Challenges and Technological
Breakthroughs

AAPG/AAPG Foundation Imperial
Barrel Award (IBA) Ceremony

Opening Session and
Awards Ceremony

Awards Ceremony Honorees

Discovery Thinking Forum

Michel T. Halbouty Lecture

SEPM Research Symposium

The Big Crew Change: Passing the
Baton and Challenges Awaiting
Mid-Career Geoscientists

DEG Special Session

Applied Ichnology Session

Special Session on Salt Tectonics

Theme 8: Deep Integration of Data
and Disciplines

Theme 10: Business and Finance

HIGHLIGHTS

Step Changes in Petroleum Geology: Historical Challenges and Technological Breakthroughs

Date: Sunday, 19 May
Time: 11:35 am–2:40 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration
Co-Chairs: A. Haddad and M. Silverman

The History of Petroleum Geology Committee will again hold its annual forum in a special session of high-quality papers. We will explore technological advances that have been integral to discovering and developing conventional and unconventional fields.

Alan Burnham will lead off the session with a discussion of politics and geology in Livermore, California. He'll be followed by Kenneth Peters, speaking on the transformation the industry experienced at the advent of computerized petroleum systems models.

Frances Hein will review the contributions of the Alberta Geological Survey. Next up, Ray Sorenson will speak on the beginnings of unconventional shale plays.

Kim Senger's paper will give a history perspective on exploration in Norway. Then, Drielli Peyerl will tell the stories of two key geologists in Brazil.

Paul Markwick will present the impact paleogeographic maps have had on exploration. Paul's talk will be followed by Douglas Carlson who will review the major trends in the AAPG over the last 100 years. Finally, Jean-Sebastian Marcil will take us through the unique exploration history of the Gaspé basin.

This promises to be a memorable session full of fine examples of challenges petroleum geology has faced by making step changes in technology.

The purpose of the History of Petroleum Geology Committee is to preserve and promote the history and heritage of the evolution of geological concepts and technologies used in the search for oil and gas worldwide and honor the memory of the men and women who moved history forward.

AAPG/AAPG Foundation Imperial Barrel Award (IBA) Ceremony

Date: Sunday, 19 May
Time: 3:00 pm–3:30 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration

Join the excitement and make sure to attend as the winners of this year's global AAPG/AAPG Foundation Imperial Barrel Award competition will be announced in a thrilling awards ceremony that is open for all to attend – giving you the chance to experience it in person. It's also a great way to start your ACE 2019 experience, as the awards presentation will take place just prior to the convention's

Opening Session and Awards Ceremony. Come a bit early and be part of the excitement.

The AAPG/AAPG Foundation IBA program is an annual competition in evaluating prospective basins, featuring teams of the top geoscience graduate students from around the world – all of whom have qualified for the finals by first winning IBA Region and Section competitions. The fast-moving presentation will include an introduction of the IBA program and all the teams who made it to the finals and recognition of the many generous sponsors who make the program possible. It all leads to the grand finale – the announcement of this year's winning teams. Come help us celebrate the accomplishments of these hard-working students – and see which teams win scholarship funds for their geosciences departments and applaud the school that leaves San Antonio with the title of IBA champion. Visit iba.aapg.org to see a list of finalists.

Opening Session and Awards Ceremony

Date: Sunday, 19 May
Time: 4:00 pm–5:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration

One of the grand traditions of the AAPG Annual Convention and Exhibition, the Opening Session and Awards Ceremony is a highlight of every ACE. This year, General Co-Chairs Lorena Moscardelli from Equinor's Research Center in Austin and Eddie Valek from EOG Resources in San Antonio will be opening the meeting with an overview of the exciting additions to the technical program and the many attractions that San Antonio has to offer to ACE attendees. Both, Lorena and Eddie are enthusiastic supporters of AAPG in the region and well-known members of the Geoscience community in Texas and beyond. Following Lorena and Eddie, AAPG President Denise Cox will deliver her address to the membership focusing on the theme of the convention "A Sustainable Future", as well as honoring both AAPG and the awardees for their numerous accomplishments in 2018-19.

Awards Ceremony Honorees

Sidney Powers Memorial Award

Kenneth Peters

Michel T. Halbouty Outstanding Leadership Award

Bernard Duval

Honorary Member Award

Kevin Bohacs

Larry Jones

Larry Wickstrom

Norman H. Foster Outstanding Explorer Award

Chengzao Jia

Robert R. Berg Outstanding Research Award

Kurt Marfurt

Distinguished Service Award

Ibrahim A. Al-Ghamdi
Marvin Brittenham
Satinder Chopra
John Curtis
Evelyn Medvin
Kenneth Nemeth
Tim Rynott
K.B. Trivedi
John T. Williams

Grover E. Murray Memorial Distinguished Educator Award

Michael Grammer
Kathleen Marsaglia

Harrison Schmitt Award

Edward A. Merewether

Public Service Award

Timothy Elam

Pioneer Award

Janell Edman

Geosciences in the Media Award

Aaron Harber

Young Professionals Exemplary Service Award

Olatunbosan Afolayan
James "Hunter" Lockhart
Wan Ching Low

Vlastimila "Vlasta" Dvořáková International Ambassador Service Award

Chuck Caughey

Wallace E. Pratt Memorial Award

Kurt W. Rudolph
Frank J. Goulding

J.C. "Cam" Sproule Memorial Award

Yuanjia Han

John W. Shelton Search and Discovery Award

Michael Grammer
Jim Karsten
Dennis Prezbindowski
Benjamin Dattilo
Jonathan Havens

George C. Matson Memorial Award

(Best Paper in an AAPG Session at 2018 ACE)
Ayrat Gizzatov

Jules Braunstein Memorial Award

(Best Poster in an AAPG Session at 2018 ACE)
Toti Larson
Benjamin P. Smith
Nick Ettinger

SEG/AAPG Best Paper in Interpretation Journal Award

Rui Zhang
Sergey Fomel

Discovery Thinking Forum – "Pioneering Discoveries" Driving Prosperity

Date: Monday, 20 May
Time: 1:15 pm–5:05 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration
Chair: C. Sternbach

The "Discovery Thinking" Forum will be the twenty-first presentation of the AAPG 100th Anniversary Committee's program recognizing "100 Who Made a Difference." These Forums, co-sponsored by AAPG's Division of Professional Affairs (DPA), will feature invited speakers who will describe major and significant discoveries. We are pleased to announce this Forum will continue at San Antonio ACE 2019 with four very notable discovery presentations.

Each speaker and their colleagues overcame significant business, technical, and professional challenges. Topics to be discussed will include philosophy of exploration, stories from remarkable careers, professional insights, colorful anecdotes, and lessons learned on the path to success. As technology advances and younger geoscientists enter our profession, the organizers see continued interest in forums such as these. These forums provide a venue for explorers to discuss the personal side of success and what has been called the "art of exploration." As always, the audience is fortunate to hear the speakers share abundant technical data and insights derived from costly and hard-won experience.

AAPG offers many technical sessions. "Discovery Thinking" forums fill an important gap in how technical and professional skills combine to turn prospects into discoveries. Speakers are encouraged to share personal stories about discoveries they know well, to bring forward appropriate technical data, and to address questions from the audience. As a resource to fellow explorers, many previous Discovery Thinking presentations can be found on the AAPG Search and Discovery website under the Special Collection tab.

This year, AAPG is pleased to present "Pioneering Discoveries." San Antonio is a center of pioneering spirit and well-positioned to feature significant exploration discoveries of the western hemisphere.

- **ExxonMobil Guyana Exploration and Discovery:** TBA
- **Discovery of Oil in Belize After Fifty Dry Holes: Geological Insights and Exploration Timeline:** Susan Morrice, Cofounder and Chairperson, Belize Natural Energy Ltd
- **Permian Basin Wolfberry and Wolfbone: Discovery of World-Class Resources in a Mature Basin and New Insights:** Bill Fairhurst, Texas Bureau of Economic Geology and President, Riverford Exploration, LLC
- **Discovery of the Unconventional Vaca Muerta Shale Play in the Neuquén Basin, Argentina:** Carlos E. Macellari, Director of Exploration and Development, Tecpetrol

HIGHLIGHTS

Michel T. Halbouty Lecture: The Future of Oil and Gas Exploration



Date: Monday, 20 May
Time: 5:10 pm–6:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration
Speaker: **Stephen M. Greenlee**, President, ExxonMobil Exploration Company

The Michel T. Halbouty lecture series – funded by the AAPG Foundation – is an ongoing special event at the AAPG Annual Convention and Exhibition. Lecture topics are designed to focus either on wildcat exploration in any part of the world where major discoveries might contribute significantly to petroleum reserves, or space exploration where astrogeological knowledge would further mankind's ability to develop resources on Earth and in the Solar System.

SEPM Research Symposium: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record

Date: Tuesday, 21 May
Times: 8:00 am–11:50 am & 1:15 pm–5:05 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration
Co-Chairs: A. Fildani, K. Gomez, and J. Covault



The world faces significant challenges in energy resources and sustainability, including securing petroleum resources, accessing clean water for human consumption, and mitigating rising temperatures during the 21st century. Living in a sustainable world requires societal and ecologic balance, one that demands no more of the environment than it can sustain over the long term. Geoscientists are uniquely qualified to address these challenges given their multi-disciplinary training in the study of Earth's systems and processes over a range of time scales.

The 2019 Society for Sedimentary Geology (SEPM) Symposium is bringing together a diverse group of dynamic speakers to present forward-looking research addressing the role of sedimentary geoscience in challenges in energy resources and sustainability. The Symposium includes a traditional oral session of 6 Keynote Speakers representing the "pillars" of sedimentary geosciences and, for the first time at ACE, a Presenting Interactive Content (PICO) Session. The PICO Session will allow authors to share their work in two-minute oral presentations, followed by presentations on interactive screens and/or traditional posters.

Morning Session – Keynote Speakers:

- **Carbon Sequestration Through Time and Its Role as an Overlooked Driver of Earth's Long-Term Climate History:** Kristin D. Bergmann, Nicholas Boekelheide, Adam B. Jost, Marjorie Cantine, Tyler Mackey
- **Tracking Anoxia in Ancient Oceans: Potential and Limitations of Paleoredox Proxies in Carbonate Rocks:** Kimberly V. Lau, Dalton S. Hardisty, Benjamin C. Gill, Timothy W. Lyons
- **Understanding Muddy Sedimentary Strata on Continental Margins: Significance, Knowledge Gaps, and One Perspective on What We Need for the Future:** Samuel Jackson Bentley
- **Towards a Better Understanding of Architecture and Pore-Space Distribution in Clastic Sediments and Rocks: Studying Sedimentary Systems Using Simple Stratigraphic Forward Models:** Zoltan Sylvester
- **Improving Subduction Zone Hazards Assessments Using the Coastal Stratigraphic Record:** Tina Dura
- **Sedimentology in Fifty Years:** John B. Thurmond

Afternoon Session – PICO Presentations:

- **Understanding Ice-Sheet Vulnerability Using an Integrated Subsurface Sedimentary Geoscience Approach: Preliminary Results from Neogene and Quaternary Records Acquired During IODP Expedition 374 to the Ross Sea, Antarctica:** Brian W. Romans, Laura De Santis, Robert M. McKay, Denise K. Kulhanek, Expedition 374 Scientists
- **Submarine Fans, the Carbon Cycle, and Climate Models:** Angela M. Hessler
- **Opportunities for Incorporating Deep-Time Insight About Landscape Dynamics into Engineering and Decision-Making Models:** Elizabeth Ann Hajek, Vamsi Ganti, Evan Greenberg
- **Using Earth's Sedimentary Record to Inform Studies of Delta Channel Deposits on Mars:** Timothy A. Goudge, David Mohrig, Benjamin T. Cardenas, Cory M. Hughes, Caleb I. Fassett
- **Conservation Paleobiology— Using Ancient Examples of Marine Extinctions to Understand and Mitigate Future Ecosystem Collapse:** Rowan Clare Martindale, William Foster, Anna M. Weiss
- **Exploiting Autogenic Sedimentary Processes to Synchronize Geologic and Modern Timescales of Environmental Change:** Brady Z. Foreman, Kyle M. Straub
- **Predictions for the Width of River Channel Belts From Physical Experiments and the Rock Record:** Ajay B. Limaye, Chris Paola
- **Integrating Observations From Recent Seafloor Surveys With the Deep-Water Stratigraphic Record: Implications for**

Securing Energy Resources, Geohazard Assessments, and Other Potential Applications: Stephen M. Hubbard, Rebecca Englert, Matthieu Cartigny, Michael Clare, Joris Eggenhuisen, Zane Richards Jobe, Sophie Hage, Maarten Heijnen, Daniela Vendettuoli

• **Building a Geothermal Future on a Sedimentary Foundation:** John Millard Holbrook

• **Hydrologic Variability and Fluvial Responses to Increased Warming During the Paleocene–Eocene Thermal Maximum, Piceance Creek Basin, Colorado, USA:** Anna K. Lesko, Brady Foreman

The Big Crew Change: Passing the Baton and Challenges Awaiting Mid-Career Geoscientists

Date: Tuesday, 21 May

Time: 1:15 pm–2:40 pm

Location: Henry B. Gonzalez Convention Center

Fee: Included with registration

Moderators: Stephanie Nwoko, Senior GeoModeler, Premier Oilfield Group and Dallas Dunlap, Research Scientist Associate, The University of Texas at Austin

The “big crew change” is upon us and the mid-career geoscientists are left to run the show, but are they ready?

This special session will discuss the challenges mid-career geoscientists are currently facing in the oil and gas industry, and the lack of advanced training needed to ensure their continued development. Is there a transition phase, and are they equipped to take over the baton?

Mid-career geoscientists will share their experiences, lessons learned, and suggested solutions that can be implemented. They will touch on the downturn's effects and survival skills. They will also address their waning interest in AAPG and how it can be revived.

The AAPG Executive Committee will be present to address pressing questions and discuss AAPG's view on the generation gap, declining involvement of the mid-career professional, and what can be done to jumpstart this generation's era.

Panelists:

- **Vanessa Kertzus**, Supervisor Gulf of Mexico West, Shell
- **Diana Duran**, Geological Advisor Permian Exploitation group, Occidental Petroleum
- **Nysa Chaderton**, Technical Team Lead, ExxonMobil
- **Michael Pyrcz**, Associate Professor, The University of Texas at Austin
- **Nancy Slatter**, Managing Partner, Cabral Energy
- **Ika Novianti**, Director Geophysical Operations, ION Geophysical

DEG Special Session on Environmental Impact and Sustainability



Date: Tuesday, 21 May

Time: 3:20 pm–5:05 pm

Location: Henry B. Gonzalez Convention Center

Fee: Included with registration

Co-Chairs: M. Barrett and M. Jacobs

Speaker: **Iain Stewart**, Communicating Contested Geoscience to the Public: “Matters of Fact” vs. “Matters of Concern”

Geological issues are increasingly intruding on the everyday lives of ordinary people. Whether it is the onshore extraction of oil and gas, the subsurface injection of waters for geothermal power, or the deep storage of waste products, communities across the world are being confronted with controversial geological interventions beneath their backyards. With a growing recognition that it is social rather than technical factors that stir societal unease and fuel community outrage, geoscientists need new communication strategies to engage dissonant publics, underpinned by a culture change from conveying “matters of fact” to brokering “matters of concern.”

Our keynote speaker, Iain Stewart, is Professor of Geoscience Communication at the University of Plymouth, UK, and Director of its Sustainable Earth Institute. His academic interests are in applying Earth science to pressing societal concerns—climate change, geo-resources, geo-energy, disaster risk reduction—leading to his designation as UNESCO Chair in “Geoscience and Society.” His expertise builds on a 15-year partnership with BBC Science, making popular television documentaries about planet Earth and tackling controversial geoscientific issues, such as climate change (Earth: The Climate Wars [2008]) and energy (Fracking—the New Energy Rush [2013] and Planet Oil [2015]). This “popular geoscience” has led to a research interest in how to effectively convey complex and contested Earth science to non-technical (public) audiences, forging novel research alliances with geographers, psychologists, sociologists, and anthropologists. Iain, appointed a Member of the Order of the British Empire (MBE) in 2013, has also been recognized for his services to the Earth sciences by The Royal Geographical Society, the Geological Society of London, the American Geophysical Union, the American Association of Petroleum Geologists, the American Geosciences Institute, the Royal Society of Edinburgh, the European Federation of Geologists, and the Geological Society of America.

This special session will be rounded out by three submitted talks on the intersection between petroleum geoscience and sustainability; a complete list can be found on page 69.

HIGHLIGHTS

Applied Ichnology Session: In Honor of Dr. S. George Pemberton Ph.D., P.Geol., F.R.S.C.



Date: Wednesday, 22 May
Time: 8:00 am–11:50 am
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration
Co-Chairs: Murray K. Gingras and James A. MacEachern

On 4 August 2018, the geoscience community lost a pioneer in the applications of ichnology – Dr. S. George Pemberton. It is fitting that this session, focused on the use of trace fossils in solving sedimentological, stratigraphic, and reservoir problems, be held in his esteemed honor. At a time when ichnology was regarded to be an esoteric discipline of paleontology to be pursued only in the absence of “real” fossils, George saw an untapped resource that could impart profound insights into paleoenvironmental interpretations of the rock record. It was his aim to make ichnology applicable and accessible to the broader sedimentological community. Importantly, owing to George’s insight, ichnology became relevant to subsurface datasets. He set out to train sedimentologists to identify trace fossils and employ them as “biogenic sedimentary structures” in order to characterize and interpret facies and to recognize stratigraphic discontinuities. George later began to employ ichnological datasets to the characterization of reservoir porosity and permeability, which has since expanded into an exciting direction of research. It is a testament to his vision that today the integration of ichnology is considered an essential part of good facies analysis and sequence stratigraphic interpretation.

You are warmly invited to attend the Applied Ichnology session in honor of George Pemberton. Many of the presenters in the session are former graduate students or post-doctoral colleagues of George’s. The presentations run the gamut of trace fossil applications to the facies analysis of continental to deep-water deposits, characterization of carbonate and mixed siliciclastic-carbonate successions and their reservoirs, the identification of stratigraphic discontinuities in a sequence stratigraphic framework, and neoichnology. George would have been humbled by such a session in his honor, because regardless of the widespread appreciation of his contributions, George always held point of pride in the successes and contributions of his graduate students, often quoting Henry Adams – *A teacher affects eternity; he can never tell where his influence stops.*

Special Sessions on Salt Tectonics: A Community Tribute to Martin P. A. Jackson



This year’s series of special sessions on salt tectonics (“Salt Involved Systems: Deposition to Diapirism to Dissolution”) is dedicated to the memory of Martin P. A. Jackson. Martin passed away in May of 2016 after a lengthy battle with cancer. Up until shortly before his death Martin was still working away on the textbook “Salt

Tectonics: Principles and Practice.” That textbook was published in 2017, and is widely, and deservedly, praised as the de facto textbook on salt tectonics.

Originally a “hard rock guy,” Martin made the switch to work on one of the weakest rocks, rock salt, in the early 1980s shortly after arriving at the Bureau of Economic Geology (BEG) at The University of Texas at Austin. Martin’s initial focus was on salt structures in the onshore Gulf of Mexico with other BEG researchers, but he became intrigued with the Great Kavir salt desert in central Iran after seeing an aerial photograph of clustered salt diapirs in this largely uninhabited region. This was followed by stints of centrifuge modeling in the Hans Ramberg Laboratory at Uppsala in Sweden, aerial photograph analyses, and field work with other colleagues in the Great Kavir. The end result of this research was the concept of a salt canopy, with the Great Kavir being a natural depth slice through such a structure. This had a major impact on our understanding of the salt bodies in the offshore Gulf of Mexico. In 1988 Martin set up the Applied Geodynamics Laboratory (AGL) at the BEG with seed money to focus specifically on salt tectonics. Since 1989 the AGL has been continually funded by industry partners. As with his research on the Great Kavir, Martin enlisted the help of BEG colleagues to work with him on tackling salt-tectonic problems using a multidisciplinary approach that utilized field studies, seismic-based studies, and physical and numerical models.

Under Martin’s direction many important concepts came out of this newly-formed research group, along with coworkers from both academia and industry. These include the concept of aforementioned salt canopies and how they are emplaced, the rise and fall of diapirs under extension, salt-related fault families, identification and mechanisms of salt welds, and the list goes on. Martin’s work on salt tectonics was not confined to the northern Gulf of Mexico and associated coastal zones, but also included field-based studies of salt tectonic systems in the Sverdrup Basin (Arctic Canada), Paradox Basin (Utah), Katangan Copperbelt (central Africa), and Haute Provence (France), as well as seismic-based studies in the western Mediterranean Sea, Bay of Biscay, Red Sea, offshore Angola, offshore Gabon, and onshore Brazil. He did not confine himself to terrestrial studies but also worked on salt-tectonic systems on Titan and Mars.

Martin’s publications have been cited more than 6,500 times, but that’s just metrics! What made Martin such a great scientist was his



intellectual curiosity, his ability to work with people, his congeniality, and his patience. Salt tectonics can be completely baffling when one is introduced to it, especially multi-tiered systems such as those we see in the Gulf of Mexico. Martin enjoyed solving these geological puzzles, but also loved introducing people to salt-tectonic concepts and answering their questions, no matter how elementary those questions were. And then there was that glint in his eye and grin when he would quietly ask “Do you think this type of system can be modeled?” He knew it could, but he was being polite, and gently asking you if you would do it!

In February of 2018, some 60 of us gathered by the shores of the Dead Sea in Israel for the Geological Society of America Penrose Conference “Advances in salt tectonics: observations, applications, and perspectives” held in honor of Martin. It seems fitting now to share the celebration of his life and legacy with the broader AAPG community, considering the impact he made on salt tectonics and the recognition he received from the American Association of Petroleum Geologists in the form of four major awards.

These special sessions are the product of a collective effort by the salt tectonic community and we hope attendees of ACE 2019 have an opportunity to enjoy this celebration. Martin would have loved this!

The AAPG Technical Program Formally Welcomes the “Data Science Revolution”—A Sign of the Times

Data Science in the Geosciences is an interdisciplinary field that uses scientific methods, processes, and algorithms to extract knowledge and insights from a variety of geological and engineering data sets. In the past few years, terms such as Machine Learning, Digitalization, and Artificial Intelligence have received a lot of attention in both large and small oil and gas companies. The ACE 2018 Machine Learning “Unsession” in Salt Lake City provided an initial platform to explore some of these ideas during the Annual Meeting. The ACE 2019 organizing committee has recognized the need to incorporate a new technical theme as part of the ACE program in San Antonio so that we can advance our discussion from conceptual to practical and add a strong hands-on component.

Theme 8: Deep Integration of Data and Disciplines will incorporate both oral and poster sessions that cater to all levels of knowledge and where applications and case studies will showcase a wide range of topics:

- **New Applications of Machine Learning to Subsurface Science: Monday morning oral session and Tuesday morning poster session; see page 41 & 66 for details**
- **Multi-Disciplinary Integration for Subsurface Efforts in the Age of Big Data: Monday afternoon poster session and Tuesday morning oral session; see page 57 & 60 for details**

- **The Digital Transformation in the Geosciences: Tuesday afternoon poster session and Wednesday afternoon oral session; see page 71 & 83 for details**

- **Application of Machine Learning to Imaging: Wednesday morning poster session; see page 80 for details**

Theme 8 comes in a bundle with three exciting short courses that are designed to address the needs of different proficiency levels when it comes to this new chapter on digital transformation of the geosciences. These courses will cover the range from getting an introduction to the basic concepts to a hands-on programming experience using Python. See page 88-89 for more information on short courses.

- Advanced Analytics – Machine Learning 101 (AAPG PROWESS)
- Improving Modeling and Predicting Reservoir Behavior
- Introduction to Data Science and Machine Learning in the Geosciences

We hope that these additions to the technical program will help us to start bridging the gap between the fancy graphics that advertise the advent of the digital era and our actual knowledge of the benefits and challenges of embracing a new “digital revolution.”



HIGHLIGHTS

NEW! Theme for 2019—Business and Finance: Where the Subsurface and the Commercial Combine to Create Value

We all know that any good upstream venture starts with a rich subsurface endowment where one understands the petroleum system and learns from one well to another. The most prolific of these ventures are described as Super Basins, while others are aspiring to the title, supported by relentless exploration efforts and technological innovation. As geologists or geophysicists our focus is often on unraveling the subsurface, and yet it is equally important to acknowledge that none of these ventures would exist if not for the support of a business-friendly environment, savvy investment decisions and availability of capital. Building on the ACE 2018 session “The Business of Oil and Gas: The Many Pathways to Success,” this year the Division of Professional Affairs (DPA) has assembled an entire theme focused on the business and financial aspects of our industry. Theme 10: Business and Finance intends to open channels of knowledge and collaboration among oil and gas professionals whether they use a rock hammer or Monte Carlo simulation to create value.

The “business and finance” theme has been arranged like a triptych representing one large image split into three. The first panel, or session, is discussing Opportunity Valuation, the second, Deals and Investment Decision, while the third homes in on Financing options.

The individual talks inside the three sessions have been arranged in such a way that more often than not a talk with an unconventional resource plays focus will be followed by a talk highlighting similar aspect in conventional onshore or offshore plays.

The talks cover topics including: Conventional exploration back in the black, the role of luck and serendipity in exploration, adventures in exploration deal-making, the development of an entrepreneur, and building a private equity company. These are just a few of the exciting topics which will be covered by seasoned explorers, entrepreneurs and investors, demonstrating how combining outstanding subsurface analysis with commercial and economic savvy drives value creation.

This is the first year that we will have a dedicated theme to this ever-important topic, without which none of us would have, not will have, the exciting career of oil and gas explorers and producers. We definitely count on your support to carry this Theme into the future of the AAPG. Please make time to attend one or more of these sessions and continue your journey to be a multi-faceted value creator. We will see you there!

- **Opportunity Valuation:** Tuesday, 21 May, 1:15 pm–5:05 pm, see page 68 for details
- **Deals and Investment Decisions:** Wednesday, 22 May, 8:00 am–11:50 am, see page 74 for details
- **Financing:** Wednesday, 22 May, 1:15 pm–5:05 pm, see page 81 for details



AAPG^s

22-24 January 2019 • Sugar Land, Texas
Sugar Land Marriott Town Square

GLOBAL SUPER **BASINS** 2019

The Permian



The Permian: A Decade of Lessons Learned

REGISTER NOW

A revival unique even in the energy industry, the Permian Basin's rebirth was brought about by sweeping technological and process innovations. So much has been learned here that can be applied in the Permian and beyond.

Join us as AAPG assembles an extraordinary team of Permian experts to share with you what can be learned from the past decade and how you can apply this knowledge to become vastly more productive and profitable.

Seating is limited to only 400 attendees, please register early.

SuperBasins.aapg.org/2019

Networking & Events

Luncheons

U-Pitch

Networking Opportunities

Students

Young Professionals

SEPM Annual Meeting

Exhibition

Social Activity

Guest Program



LUNCHEONS

All-Convention Luncheon

Date: Monday, 20 May
Time: 11:30 am–1:15 pm
Location: Henry B. Gonzalez Convention Center
Fee: \$65
Speaker: TBA

The traditional All-Convention Luncheon will take place on Monday at the Henry B. Gonzalez Convention Center. Please check ACE. AAPG.org for information as soon as it becomes available.

The AAPG Foundation's Teacher of the Year Award will be presented during the All-Convention Luncheon. The annual Teacher of the Year award of \$6,000 is given to a K-12 teacher for excellence in the teaching of natural resources in the earth sciences. The award includes \$3,000 to the recipient's school and \$3,000 for the recipient's personal use. In addition, the recipient receives an expense-paid trip to the Annual Convention and Exhibition (ACE) to receive the award. Nominations for the award are submitted by the AAPG sections and the winner is chosen by AAPG Foundation's Teacher of the Year Judges. Each section winner receives a \$500 cash award.

Division of Professional Affairs (DPA) Luncheon: Re-Inventing Yourself to Stay Relevant in an Ever-Changing Geoscience Technical Climate



Date: Tuesday, 21 May
Time: 11:30 am–1:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: \$65
Speaker: **Deborah K. Sacrey**, Owner, Auburn Energy

Deborah is a geologist/geophysicist with 42 years of oil and gas exploration experience in the Texas and Louisiana Gulf Coast and Mid-Continent areas of the US. She received her degree in Geology from the University of Oklahoma in 1976 and immediately started working for Gulf Oil in their Oklahoma City offices.

She started her own company, Auburn Energy, in 1990 and built her first geophysical workstation using Kingdom software in 1996. She helped SMT/IHS for 18 years in developing and testing Kingdom software. She specializes in 2-D and 3-D interpretation for clients in the US and internationally. For the past eight years she has been part of a team to study and bring the power of multi-attribute neural analysis of seismic data to the geoscience public, guided by Dr. Tom Smith, founder of SMT. She has become an expert in the use of Paradise software and has more than five discoveries for clients using multi-attribute neural analysis.

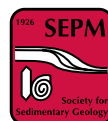
Deborah has been very active in the geological community. She is past national President of SIPES (Society of Independent

Professional Earth Scientists), past President of the Division of Professional Affairs of AAPG (American Association of Petroleum Geologists), Past Treasurer of AAPG and Past President of the Houston Geological Society. She is currently the President of the Gulf Coast Association of Geological Societies and is one of the GCAGS representatives on the AAPG Advisory Council. Deborah is also a DPA Certified Petroleum Geologist #4014 and DPA Certified Petroleum Geophysicist #2. She belongs to AAPG, SIPES, Houston Geological Society, South Texas Geological Society, and the Oklahoma City Geological Society (OCGS).

SEPM Business Meeting Luncheon: Seismic Geomorphology—From the Earth's Ocean Depths to the Distal Planets, A Revolution in Reconstructing Landscape Form and Processes



Date: Tuesday, 21 May
Time: 12:00 pm–1:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: \$55
Speaker: **Dr. Lesli Wood**, Weimer



Distinguished Chair and Professor in Sedimentary and Petroleum Geology, Department of Geology and Geological Engineering

Dr. Wood joined the faculty at Colorado School of Mines in 2015 as the Robert J. Weimer Distinguished Chair and Professor in Sedimentary and Petroleum Geology, where she is Professor and Director of the Sedimentary Analogs Database and Research Program (SAnD). Prior to joining CSM, Dr. Wood held positions at the University of Texas at Austin, Amoco Production Company, and ARCO. Dr. Wood specializes in quantitative seismic geomorphology of clastic basins, tectonics and sedimentary system interactions, submarine and sub-lacustrine mass failures, petroleum geology, shale tectonics, and geomorphology of Mars. She has served as SEPM Society for Sedimentary Geology National Secretary-Treasurer, the GCSSEPM President, and is active in AAPG. Dr. Wood has published widely on the nature of modern and ancient deep- to shallow-water systems around the world and, she and her students have won numerous best paper and poster awards.

When we are asked to account revolutionary concepts from the past 50 years of sedimentology and stratigraphy we are often at a loss to move much beyond "the turbidite?" Some of us can list "sequence stratigraphy," although Larry Sloss would argue that these ideas have been around but were simply popularized in the past 40 years. However, the development of Seismic Geomorphology and even further, our ability to quantify the earth's historical nature through Quantitative Seismic Geomorphology, has truly been an eye-opening revolution in the way we see the historic Earth. The cannon fire driving this revolution's forward advance

LUNCHEONS

is three-dimensional seismic data, and this advance rides upon the shoulders of the science of geomorphology. In recent years, the development of Digital Geomorphology, has further advanced our recognition of processes that have formed our sister planets. This talk will document, in amazing detail, the advances in planet surface process imagery through seismic geomorphologic and other technologies, and detail the revolution that this ability to see into ancient landscapes has spawned in our understanding of the earth's process history and the formation of our sister planets.

Division of Environmental Geosciences (DEG) and Energy Minerals Division (EMD) Luncheon Global Energy Transition – An Uncertain Outcome Driven By Developments in Policy, Technology, and Behavior



Date: Wednesday, 22 May
Time: 11:30 am–1:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: \$60
Speaker: **Eirik Wærness**, Senior Vice President and Chief Economist, Equinor

Eirik Wærness is the Senior Vice President and Chief Economist at Equinor. He is responsible for macroeconomics, energy and commodity market analyses, and is also head of corporate strategy for mid- and downstream markets. Eirik has a broad level of past experiences holding several different leadership positions in government, academics, and private sector companies. In addition to his current role at Equinor, Wærness leads Corporate Strategy, Corporate Planning and Analysis, Economic Analysis in Upstream Norway, and Energy Market Analysis. Wærness serves as a non-executive member on the Board of Innovation Norway, the Board of Centre for Applied Research at the Norwegian School of Economics and is also a member of the Global Commission to examine Geopolitics of Energy Transformation which is set up by the International Renewable Energy Agency (IRENA).

Past work experiences include:

- July 2016–February 2018: non-executive member of the Board of the Norwegian Financial Supervisory Authority (Finanstilsynet)
- 2014–2018: participated in different energy initiatives under World Economic Forum, including special advisor for work on energy architecture and member of the global council on the future of energy
- 2010–2013: member of the Executive Board of the Central Bank of Norway

- Additional: work experience from the Centre for Applied Research at the Norwegian School of Economics, Norwegian Ministry of Finance, Total E&P Norway, and Pöyry Management Consulting/Econ Centre for Economic Analysis

U-Pitch

Dates: Monday, 19–Wednesday, 22 May
Times: 9:30 am–4:30 pm (Monday and Tuesday)
 9:30 am–12:00 pm (Wednesday)
Location: Henry B. Gonzalez Convention Center – Exhibit Hall
Fee: \$250 per presenter
Includes: Access to Exhibit Hall all three days, Opportunity to upload presentation to On-Demand Station where attendees can view pitches, Access to utilize private meeting room near U-Pitch Pavilion, Recognition on ACE.AAPG.org, Recognition in ACE Program Book

Limit: 30 presentation slots

Following the Opening Session and Awards Ceremony head over to the Exhibition for drinks and hors d'oeuvres. Connect with old friends and colleagues or cultivate new business relationships while networking with exhibitors.

U-Pitch is perfect for your:

- Technology start-up
- Technology commercialization
- Property or project that implements new technology for new reserves or increased production
- Research consortium with new technology and techniques

What kinds of technologies attract investment?

- Smart technologies (new productivity apps, etc.)
- New imaging and interpretation software
- Safety and monitoring (smart operations)
- Data repositories
- Analytics Platforms
- Oil field chemicals
- Sensors
- Infrastructure (communications, pipeline technology, gas processing technologies)
- New materials used in drilling, etc.
- Drone technologies
- Robotics
- New services
- Your only limit is the limit of your imagination!

For more information please visit: ACE.AAPG.org

NETWORKING OPPORTUNITIES

Icebreaker Reception

Date: Sunday, 19 May
Time: 5:00 pm–7:30 pm
Location: Exhibit Hall
Fee: Included in registration

Following the Opening Session and Awards Ceremony head over to the Exhibition for drinks and hors d'oeuvres. Connect with old friends and colleagues or cultivate new business relationships while networking with exhibitors.

Refreshment Breaks

Dates: Monday, 20 May–Wednesday, 22 May
Times: 9:15 am–10:15 am (Monday, Tuesday, and Wednesday)
2:30 pm–3:30 pm (Monday and Tuesday)
Location: Exhibit Hall
Fee: Included in registration

Face-to-face networking is one of the most effective ways to meet vendors, suppliers, and service providers. Grab a cup of coffee or tea and visit with industry experts, innovators, and influencers to see the latest technologies and innovations.

End-of-Day Receptions

Dates: Monday, 20 May–Tuesday, 21 May
Time: 5:00 pm–6:00 pm
Location: Exhibit Hall
Fee: Included in registration

End each day by enjoying a drink and appetizer. Meet fellow professionals, product and service providers, and business prospects to exchange ideas and gain competitive intel that will help drive your success.

All-Alumni Reception

Date: Monday, 20 May
Time: 5:30 pm–7:30 pm
Location: Grand Hyatt San Antonio
Fee: Included with registration

Mingle with former classmates at the All-Alumni Reception while enjoying cash bars stationed throughout the room. Signs will identify tables for participating colleges and universities. Any alumni group wishing to participate in the All-Alumni Reception or sponsor your own private function should contact Alicia Collins with AAPG at acollins@aapg.org by Friday, 15 February.

AAPG HoD/PROWESS/DEG Networking Reception

Date: Saturday, 18 May
Time: 6:00 pm–7:30 pm
Location: Grand Hyatt San Antonio
Fee: By invitation only

Professional Women in Earth Sciences and the Division of Environmental Geosciences invite you to a networking reception inspired by the women and men who have encouraged diversity in the geosciences. This event is open to all interested individuals.

Career Center – Open to All Job Seekers

Dates and Times: Monday, 20 May, 8:30 am–5:00 pm
Tuesday, 21 May, 8:30 am–5:00 pm
Wednesday, 22 May, 8:30 am–2:00 pm
Location: Henry B. Gonzalez Convention Center

The Career Center in San Antonio is an AAPG benefit for both employers and job seekers. The room is conveniently accessible to the public and meeting registration is not required to utilize this service. We also have a private interview room available during the hours posted.

The AAPG Career Center helps job seekers and employers connect in an environment specifically designed for petroleum geosciences professionals, saving them both time and effort. AAPG staff will be in the room to answer questions and assist with scheduling interviews, as well as posting résumés and jobs.

Job seekers — Bring your résumé to post to the Career Center bulletin board at no charge. AAPG members also have the option of posting their résumés online.

Employers — Post jobs on our bulletin board and contact us to reserve a table to meet with job seekers or share promotional material about your company. Those with paid postings to our online Career Center have access to our online résumé database as well. Companies may reserve half-day, full-day, or all three days at no cost. Table must be staffed by your company representative. Limited space is available.

Prior to the show, contact our staff to inquire about posting jobs on our website to receive special discounts. To post a job online, go to careercenter.aapg.org. To reserve a table, contact Brian McBroom in the Customer Experience Center at bmcroom@aapg.org.

STUDENTS AND YOUNG PROFESSIONALS

Student and Faculty Lounge

Dates: Monday, 20 May–Wednesday, 22 May
Time: Exhibition Hours
Location: Exhibit Hall
Fee: Included with registration

Compliments of long time sponsor Chevron, students and faculty are invited to stop in and meet with industry professionals to develop their career contacts and enjoy some light refreshments.

Student Career Seminar

Date: Monday, 20 May
Time: 4:00 pm–6:00 pm
Location: Grand Hyatt San Antonio
Fee: \$10
Limit: 64 Students

This workshop, hosted by the AAPG Student Expo Committee, is designed to assist students in their employment search endeavors within the petroleum and environmental industries by introducing them to the activities of the day-to-day life in these industries and offering specific job search strategies and tips for finding employment. There will be a brief introduction to the table discussion leaders, made up from industry managers and technical professionals, followed by a series of 30-minute facilitated round-table discussions where students are encouraged to ask questions and converse with the discussion leaders. The discussion leaders will rotate among the tables periodically, maximizing interaction between industry professionals and students. Students may also choose to sign up for a résumé review with an industry recruiter during this workshop. The résumé review offers practical guidelines for résumé development and interviewing tips.

AAPG/SEPM Student Reception

Date: Monday, 20 May
Time: 6:00 pm–8:00 pm
Location: Grand Hyatt San Antonio
Fee: Included with registration

All students and faculty attending the convention are invited to the AAPG/SEPM Student Reception sponsored by ExxonMobil. The reception will begin with a brief introductions by an ExxonMobil representative followed by the top three poster authors receiving their awards sponsored by Shell. Student Presentations" session receive awards The Jim Hartman Service to Students Award will be presented to AAPG member(s) who contributed exceptional service to AAPG's student programs. The awards program continues with the presentation of the Schlumberger sponsored Outstanding Student Chapter awards, the Shell sponsored Student Chapter YouTube Video competition, and recognition of the top Imperial Barrel Award teams enjoy hors d'oeuvres and refreshments while mingling with your peers after the presentation.

AAPG/AAPG Foundation Imperial Barrel Award (IBA)

The IBA program is an annual prospective basin evaluation competition for geoscience graduate students from universities around the world. Teams winning IBA Region and Section competitions qualify for an opportunity to compete in the international finals during ACE. Sponsoring company representatives are allowed to watch the team presentation. For more information, please go to iba.aapg.org/sponsorship or contact a Programs Coordinator at iba@AAPG.org. The announcement of the winning teams for this year's IBA competition will be open for all to attend and will take place right before the start of the Opening Session and Awards Ceremony.

Young Professionals Meet & Greet

Date: Sunday, 19 May
Time: 2:00 pm–3:00 pm
Location: Henry B. Gonzalez Convention Center
Fee: Included with registration

Make plans to participate in the Young Professionals Meet & Greet event. This is a great networking opportunity that serves as a link to connect students and early career professionals with experienced attendees (mentors) at ACE. Attendees are paired up to learn and/or share industry knowledge as well as help guide newcomers through the convention experience. Professionals may be paired with one or more students/young professionals. These paired groups of students/young professionals will be shown around the exhibition hall during the Icebreaker reception and introduced to other AAPG members and colleagues. This program grows in popularity every year with positive reviews from all who participate. Please indicate your interest in this program during the registration process. The Young Professionals Special Interest Group oversees this event.



Convention Volunteers Needed

Students and Young Professionals – Sign up to be a volunteer at ACE and benefit by earning cash and enjoying valuable interactions at the convention! Volunteers are essential to the success of the convention. As a volunteer, you might assist judges with finding and returning their scorecards, help out at the Opening Session, assist oral session chairs or poster presenters in their sessions, or support AAPG staff in the registration area or exhibit hall. Volunteers will receive \$25 for each shift (typically 4-5 hours) to help offset the cost of attending the convention. You will have an opportunity to sign up as a volunteer when you register online; those interested will be contacted approximately one month before the convention to confirm availability and role preferences. To be eligible for the cash stipend, volunteers must be either students or recent (2018-2019) graduates.

SEPM ANNUAL MEETING (Visit sepm.org for updates)

SEPM President's Reception and Awards Ceremony



Date: Tuesday, 21 May
Time: 7:00 pm–9:00 pm
Location: Marriott Riverwalk
Fee: Included with registration

SEPM President Lynn Soreghan invites you to an evening of celebration to honor the 2019 award winners of SEPM (Society for Sedimentary Geology) and a great event to network and visit with colleagues old and new. The Twenhofel Medal, the highest award of SEPM given in recognition of a career of outstanding contributions to sedimentary geology, will be presented unfortunately posthumously, to S. George Pemberton. SEPM Honorary Membership, given for both scientific contributions and service to the society, will be awarded to David Budd. The other science award recipients are Charles Paull, who will receive the Francis P. Shepard Medal in recognition of excellence in marine geology; Pamela Hallock-Muller, the Raymond C. Moore Medal in recognition of excellence in paleontology; David Mohrig, the Pettijohn Medal for excellence in sedimentology & stratigraphy; Emmanuelle Ducassou, the Wilson Award for excellence in sedimentary geology by an early career geoscientist; and SEPM's newest medal—the William Dickinson Medal for mid-career impact on sedimentary geology – will be awarded to Frank Corsetti.

SEPM will also honor the recipients of the Outstanding Paper Awards for both of its journals: *Journal of Sedimentary Research* and *PALAIOS*. SEPM will also recognize the Outstanding Student Presentation Awards from the 2019 Annual Meeting, where cash prizes will be presented to the top student presenters from the SEPM Student Awards Poster Session scheduled for Monday in San Antonio, sponsored by Nexen. As always, SEPM will recognize the members of the 2019 Annual Meeting Organizing Committee, without whom the meeting could not take place, and SEPM Foundation Student Grant recipients. The reception will begin at 7:00 pm, with cocktails available at cash bars and substantial hors d'oeuvres. The awards ceremony will start at 7:30 pm.

SEPM Research Group Meetings and Reception

Date: Monday, 20 May
Time: 7:00 pm–10:00 pm
Location: Marriott Riverwalk
Fee: Included with registration

The Society for Sedimentary Geology (SEPM) would like to invite anyone who is interested in research group activities to attend the SEPM Research Group Meetings. Individual Research Groups will meet on Monday, 20 May. Specific locations will be announced at a later date. Check the SEPM website for updates at www.sepm.org.

SEPM Research Symposium: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record

Date: Tuesday, 21 May
Time: 8:00 am–11:50 am
1:15 pm–5:05 pm

Location: Henry B. Gonzalez Convention Center
Fee: Included with registration

Co-Chairs: Jake Covault, Kiara Gomez, and Andrea Fildani

The world faces significant challenges in energy resources and sustainability, including securing petroleum resources, accessing clean water for human consumption, and mitigating rising temperatures during the 21st century. Living in a sustainable world requires societal and ecologic balance, one that demands no more of the environment than it can sustain over the long term. Geoscientists are uniquely qualified to address these challenges given their multi-disciplinary training in the study of Earth's systems and processes over a range of time scales. The 2019 Society for Sedimentary Geology (SEPM) Symposium is bringing together a diverse group of dynamic speakers to present forward-looking research addressing the role of sedimentary geoscience in challenges in energy resources and sustainability. The Symposium includes a traditional oral session of six Keynote Speakers representing the "pillars" of sedimentary geosciences and, for the first time at ACE, a Presenting Interactive Content (PICO) Session. The PICO Session will allow authors to share their work in a two-minute oral presentation, followed by presentations on interactive screens and/or traditional posters.

SEPM Field Trips and Short Courses

Be sure to check out the great array of trips and courses available for this meeting. Students should be especially aware of the Sequence Stratigraphy for Graduate Students sponsored by Chevron and the other SEPM courses that have some discounted student seats sponsored by multiple companies.

SEPM Best Student Poster Presentation Competition

SEPM will be recognizing the top student presentations from the SEPM Student Awards Poster Session (Monday). The top student presenters will be recognized with cash prizes at the SEPM President's Reception and Awards Ceremony on Tuesday evening. For additional information about SEPM Annual Meeting activities contact Howard Harper (hharper@sepm.org) at SEPM headquarters or visit www.sepm.org.

SEPM Business Meeting Luncheon: Seismic Geomorphology: From the Earth's Ocean Depths to the Distal Planets, A Revolution in Reconstructing Landscape Form and Processes

See page 21 for luncheon information.



EXHIBITION HIGHLIGHTS



Looking to find the latest products/services, learn best practices, and discover new innovations to help deliver results for your business? Visit the exhibition to see all this:

- More than 500 Poster Presentations focusing on all aspects of geosciences
- Suppliers and vendors from more than 40 countries representing world-class Petroleum E&P Companies
- The latest innovations and emerging technologies
- Product and service demonstrations
- Networking opportunities with colleagues and industry professionals
- AAPG Center & Bookstore
- The International Pavilion exhibitors from around the globe
- U-Pitch

AAPG Center

The AAPG Center will offer information and answers about your membership, events, publications, and more. You'll want to make time to visit and gather information about: EXPLORER, Datapages, Divisions, short courses, Distinguished Lecturer program, GTWs, field seminars, AAPG Foundation, global events, membership benefits, Interpretation, publications, sections/regions, student benefits, and much more. Stop by booth #1629 and learn more.

Networking in the Exhibit Hall:

Daily Refreshments

Monday, 20 May 9:15 am–10:15 am & 2:30 pm–3:30 pm

Tuesday, 21 May 9:15 am–10:15 am & 2:30 pm–3:30 pm

Wednesday, 22 May . . 9:15 am–10:15 am

End-of-Day Receptions

Monday, 20 May 5:00 pm–6:00 pm

Tuesday, 21 May 5:00 pm–6:00 pm

Exhibition Hours:

Sunday, 19 May 5:00 pm–7:30 pm (Icebreaker)

Monday, 20 May 9:00 am–6:00 pm

Tuesday, 21 May 9:00 am–6:00 pm

Wednesday, 22 May . . 9:00 am–2:00 pm

EXHIBITING COMPANIES (as of 17 December)

ACT GeosciencesAbreu Consulting and Training	Entthought	Neuralog	Subsurface Consultants & Associates, LLC
Advanced Logic Technology (ALT)	Excellence Logging/Horizon Well Logging	NRGX Technologies Ltd.	Sunburst Consulting
Alaska Division of Geological and Geophysical Surveys	Field Geo Services, Inc.	PDS Group	Task Fronterra Geoscience
Alaska Division of Oil and Gas	Flotek Industries	PetroCubic	TDI-Brooks International
ALS	Forestry Suppliers, Inc.	PetroSkills	TerraCore
American Association of Petroleum Geologists (AAPG)	Gems & Crystals Unlimited	Petrosys USA Inc.	Texas A&M University, College of Geosciences
Apatite.com Partners	GEO ExPro	PGS Exploration UK, Limited	TGS
Aramco Services Company	Geoex & MCG	Platte River Associates, Inc.	Thermo Fisher Scientific
Badley Geoscience	GeoFrontiers Corporation	Polarcus US Inc.	TOTAL SA
Baylor University	Geo-Link Inc.	Premier Oilfield Group	Tricon Geophysics, Inc.
Beicip Inc.	Geologic Data Systems	Quantum Analytics	U.S. Geological Survey (USGS)
Bell Geospace Inc	geoLOGIC systems Ltd.	Raptor Consulting, Inc.	Ulrich's Fossil Gallery
BGP Inc.	Geo-Microbial Technologies	Reservoir Group	United Oil & Gas Consulting
Bruker Corporation	Geophysical Insights	Rigaku Americas Corporation	University of Alabama
C&C Reservoirs, Inc	Geo-Steering Solutions Inc.	Riley Geological Consultants, Inc.	University of Houston, Department of Earth and Atmospheric Sciences
Cabral Energy	GeoTeric	Rock Flow Dynamics	University of Kansas
Carl Zeiss Microscopy	GeoVision & DataLog	Rockwell Consulting LTD	University of Leeds
Chinook Consulting Services	HSI Geosciences	Rocky Mountain Association of Geologists	University of Miami, CSL Center for Carbonate Research
Colorado School of Mines	iBall Instruments	Rogii Inc.	University of Texas at Austin, Jackson School of Geosciences
Columbine Logging	IHS Markit Ltd	RPS Group inc	University of Tulsa - CESE
Cordax Evaluation Technologies	IKON Mining & Exploration	Schlumberger	USLandGrid, Inc.
Crown GeoChemistry Inc.	Ikon Science Ltd	Science is Never Settled	Vinci Technologies
dGB Earth Sciences	Imperial College London	SEG (Society of Exploration Geophysicists)	Weatherford Labs
Digital Formation	Integrity Geological Services	SeisWare	WellDog
Dino-Lite Scopes	ION	Seitel Inc.	WellLogData
Earth Signal Processing Ltd.	King Canyon Buffalo, Inc.	Selman & Associates, LTD	WellSight Systems Inc.
Easy Copy Company	King Fahd University	SEPM (Society for Sedimentary Geology)	West Texas Geological Society
EDCON- PRJ, Inc.	Komodo Dragon	SGS Canada Inc.	Western State Colorado University
EDGE Systems	LMKR Resources Inc.	Southwest Research Institute	Wildcat Technologies, LLC
EGI - Energy & Geoscience Institute	Mackay School of Earth Sciences & Engineering	Spectrum Geo	
Elementar Americas	Mid Continent Well Logging, Inc.	Stone Quilt Design	
EMGS	Midland Valley Exploration	StructureSolver LLC	
	MJ Systems		
	Natural Creations		

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ACE provides a unique business platform that ensures your company's name and brand are in the minds of your target audience. Showcase your company's products and services to more than 7,500 attendees from over 80 countries looking to you for solutions to key challenges facing our industry.

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- Launch and promote new and key product lines
- Pave the way for tomorrow's sales by building your brand
- Control costs by sourcing new suppliers
- Gain competitive intelligence and stay current with industry trends
- Close sales by meeting directly with decision makers

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+1 918.630.5672

Tracy Thompson
Companies L-Z
tthompson@aapg.org
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AAPG INTERNATIONAL PAVILION

Come Explore ... A World of Opportunity!

The mission of the AAPG International Pavilion (IP) is to help provide a world-class showcase for NOCs, Governments, and Ministries promoting exploration and investment opportunities. The IP focuses on providing a platform for bringing together countries with oil and gas resources and oil and gas companies looking to explore and produce them.

The IP enables attendees and explorers to review global opportunities, learn about the latest discoveries and bid round offerings, and network directly with representatives from the countries who know the opportunities in detail. Attendees can expect to come away with heightened insight into current and future global activity. The IP will no doubt be a highlight of the event!

Following up on the successful exhibition at the 2018 AAPG Annual Convention and Exhibition (ACE) in Salt Lake City the IP is anticipating a much expanded program at 2019 ACE in San Antonio. The exhibition of countries could top 40+ exhibitors. In addition to the exhibition of countries the IP Theatre will again host a world class international speaker program that will be a global showcase of exploration opportunities. Presentations in the IP THEATRE will be focused on:

- Licensing Rounds
- Open Acreage and Current Activity
- Exploration Opportunities
- New Data for Exploration Opportunities

 **Attendees can expect to come away with heightened insight into current and future global activity. Plan now to drop by the IP located on the exhibition floor at ACE 2019.**

Exhibitors you can expect to see in the IP:

- | | | | | |
|-------------|--------------------|--------------|---------------------------|--------------------------|
| • Argentina | • Falkland Islands | • Kenya | • Newfoundland & Trinidad | • Sierra Leone |
| • Barbados | • Ghana | • Lebanon | • Nicaragua | • South Africa |
| • Cameroon | • Guyana | • Madagascar | • Nova Scotia | • Suriname |
| • Cuba | • Ireland | • Mauritania | • Panama | • Tanzania |
| • Egypt | • Israel | • Morocco | • Peru | • Trinidad & Tobago |
| | • Jamaica | • Mozambique | • Poland | • Tunisia |
| | | • Namibia | • Senegal | • Uganda |
| | | | • Seychelles | • Ukraine |
| | | | | • UK Oil & Gas Authority |
| | | | | • Uruguay |



SOCIAL ACTIVITY

San Antonio Charreada – Hosted by the South Texas Geological Society

Sponsored by: Ageron Energy LLC

Date: Tuesday, 21 May

Time: 6:00 pm–9:30 pm

Fee: \$50

Limit: 400 people

Includes: Transportation, music, dinner, drinks, and entertainment

Before barrels of oil equivalent, South Texas energy and dreams were measured in horses and cattle. Return with us now to those thrilling days of yesteryear to a private event where the Mexican adoration of the horse shines through. Charras in their finest pastel folklorico dresses breathtakingly weave their side-saddled steeds through precision riding maneuvers, re-enacting Mexican Revolution skirmishes, but as delicate as a lace fan. Charros apply nuanced skills, not brute force, to tame and work their animals.

Chartered buses will carry you rapidamente from the Grand Hyatt San Antonio in 10 minutes to the San Antonio Charro Association arena where you will be greeted by Los Soberanos mariachi band, recently returned from a command performance at the Czar's Winter Palace, while you proceed to enjoy classic Mexican fajitas with side-dishes and practically unlimited beverages, including up to three cervezas or sangrias! Plan to arrive on time at 6:00 pm to witness the opening Charreada promenade reminiscent of Roman legions paying tribute, not to Caesar, but to you.

If you need to break from the action, buses will be shuttling between the arena and the Grand Hyatt San Antonio until we bid you Adios at 9:30 pm. The first bus leaves from the Grand Hyatt San Antonio at 5:45 pm and the last bus leaves the arena at 10:00 pm.

This is a lifetime opportunity for you to enjoy a celebration of skills and life that the San Antonio Charro Association has practiced for 72 years in this arena. Do not miss it!





GUEST PROGRAM

Registered guests of AAPG members or non-members are invited to enjoy the comforts of the Guest Hospitality Suite in the Grand Hyatt San Antonio connected to the Henry B. Gonzalez Convention Center. This is the perfect place to visit with friends, relax, and enjoy refreshments.

Volunteers from the Guest Program Committee will be on hand to answer your questions about the tours and about the San Antonio area. Let us help you get acquainted with our city and the surrounding area.

Whatever your interest, San Antonio has something for everyone! Don't forget to come by the Guest Hospitality Suite.

Guest Hospitality Suite Hours:
Monday, 20 May. 8:00 am–3:00 pm
Tuesday, 21 May 8:00 am–3:00 pm
Wednesday, 22 May. . . 8:00 am–12:00 pm

GUEST TOURS

All Guest Tours will depart from the lobby at the Grand Hyatt San Antonio. Participants should plan to arrive in the lobby 20 minutes prior to the published departure times and check in with the Guest Tour Host. Participants need to wear comfortable walking shoes and appropriate clothing for both indoor and outdoor conditions.

Grand Historic City Tour

Date: Monday, 20 May
Time: 10:00 am–2:30 pm
Fee: \$85
Includes: Transportation, tour guide, museum entry, and lunch
Limit: 55 (*minimum of 15 required*)

Experience 300 years of history, architecture, and the confluence of cultures! Explore the Briscoe Western Art Museum to learn about vaqueros, cowboys, and the cattle drives of South Texas. Have lunch at Guenther House; then explore this Art Nouveau and Victorian style house and museum of the founder of Pioneer Flower Mills. Learn about Southtown, Blue Star Arts Complex, and the King William Districts.

Texas Hill Country Tour

Date: Monday, 20 May
Time: 10:00 am–5:00 pm
Fee: \$114
Includes: Transportation, tour guide, and wine tasting fees at Grape Creek Vineyard.
(wine tasting at Wedding Oak Winery and lunch in Fredericksburg not included)
Limit: 55 (*minimum of 20 required*)

Experience the famous Texas Hill Country with this exciting full day tour. Try some award-winning wine at Grape Creek Vineyard. Stroll the historic German town of Fredericksburg with time on your own for lunch and shopping. Explore WildSeed Farms—the largest working wild flower farm in the nation—where you will have time on your own to shop the nursery and boutique, enjoy some peach ice cream at the Brewbonnet Biergarten, or try some wine at Wedding Oak Winery. Must be at least 21 years old.

GUEST TOURS

Historic Pearl Brewery Tour

Date: Tuesday, 21 May

Time: 9:00 am–2:00 pm

Fee: \$60

Includes: Transportation, tour guide, and private river barge ticket. *(lunch not included)*

Limit: 35 *(minimum of 20 required)*

Take a private and narrated river barge from downtown San Antonio to the Historic Pearl Brewery. The Pearl, located north of downtown San Antonio, provides a unique experience as a top culinary and cultural destination; it features retail, dining, and picturesque green spaces, paseos, a riverside amphitheater, and the third campus of The Culinary Institute of America.

Gruene Historic District Tour

Date: Tuesday, 21 May

Time: 9:00 am–3:00 pm

Fee: \$60

Includes: Transportation and tour guide *(lunch not included)*

Limit: 55 *(minimum of 20 required)*

Explore the Gruene Historic District in New Braunfels, Texas. Shop at the many antique, artisan, and specialty shops. Have lunch at one of the many river front restaurants. Check out Gruene Hall—the oldest dance hall in Texas. Take a walking tour, on your own, using the historic markers throughout this historic German town.

San Antonio Shoe Factory Tour

Date: Wednesday, 22 May

Time: 8:30 am–12:00 am

Fee: \$45

Includes: Transportation and tour guide *(breakfast not included)*

Limit: 55 *(minimum of 20 required)*

See first-hand how SAS shoes are made during this factory tour! Experience the journey each pair of shoes take with a tour of one of the few remaining shoe factories in the U.S. Each pair of shoes can go through up to 100 different steps, performed by approximately 80 different pairs of skilled hands, before they are declared SAS quality. After the factory tour, you will have time to shop the general store or purchase your own pair of SAS shoes.

Spanish Missions Tour

Date: Wednesday, 22 May

Time: 9:00 am–1:00 pm

Fee: \$55

Includes: Transportation and tour guide *(lunch not included)*

Limit: 55 *(minimum of 15 required)*

Find out what makes San Antonio an important part of American history while taking in San Antonio's Spanish influences! See the original frescos at Mission Concepcion. Experience mission life at Mission San Jose, the Queen of the Missions. Learn about the hunters and gathers at Mission San Juan. Explore the grounds at Mission Espada. Follow the San Antonio River and discover the UNESCO World Heritage Site—the San Antonio Missions.





Technical Program

Theme Chairs

Oral Sessions at a Glance

Poster Sessions at a Glance

Technical Program Sunday

Technical Program Monday

Technical Program Tuesday

Technical Program Wednesday

ACE 2019 TECHNICAL PROGRAM THEME CHAIRS

Theme 1: Siliciclastic Systems

Vanessa Kertzus, Shell
Ian Kane, Manchester
Theresa Schwartz, CSM



Theme 2: Carbonates, Evaporites, and Mixed Systems

Laura Zahm, Equinor
Kristin Bergman, MIT
Fiona Whitaker, University of Bristol



Theme 3: Geochemistry, Basin Modeling, and Petroleum Systems

Norelis Rodriguez, Chevron
Eric Michael, CoP
Catherine Donohue, Marathon



Theme 4: Structure, Tectonics, and Geomechanics

Caleb Pollock, Pioneer
Ronald McGinnis, SwRI
Jim Granath, Consulting Structural Geologist



Theme 5: Unconventional Resources

Harris Cander, Marathon
Pat Welch, Concho
Ned Frost, Matadores Resources



Theme 6: Energy Sustainability and the Environment

Hal Macartney, Pioneer
Vanessa Nuñez, BEG
Mike Jacobs, Pioneer
Jens-Eric Lund Snee, Stanford University
Mary Barrett, Centenary



Theme 7: Geophysics – What's New and Innovative?

Nicola Tisato, GGS/UT
Reinaldo Michelena, ireservoir
Tiziana Vanorio, Stanford University



Theme 8: Deep Integration of Data and Disciplines

Sebastian Bayer, BHP
Brendon Hall, Enthought
Ashley Russell, Equinor



Theme 9: Exploration Frontiers, Energy Minerals, and Planetary Geology

Bill Ambrose, BEG
Harry Mueller
Doug Cook



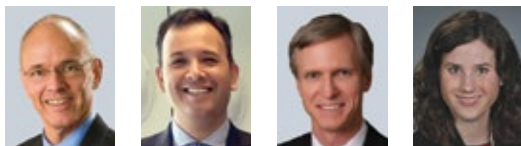
Theme 13: AAPG and SEPM Student Research

Alex Janevski, Shell
Beth Strickland, Shell
Howard Harper, SEPM
Rick Sarg, School of Mines



Theme 10: Business, Finance, and Regulatory Framework

Daniel Zweidler, Consultant
Humberto Manueco, Shell
Lee Billingsley, WindRidgeGeo
Allison Sandlin, Equinor



Theme 11: SEPM Research Symposium – A Look Into the Future of Energy and Sustainability Using the Sedimentary Record

Andrea Fildani, Equinor
Jake Covault, BEG
Kiara Gomez, University of Texas at Austin



Theme 12: History of Petroleum Geology

Matt Silverman, Bayless
Amanda Haddad, BHP Billiton



ORAL AND POSTER SESSIONS AT A GLANCE

ORAL SESSIONS AT A GLANCE

Sunday 11:35 am–2:40 pm	Step Changes in Petroleum Geology: Historical Challenges and Technological Breakthroughs				
Monday 8:00 am–11:50 am	Theme 2: Characterizing Fracture and Karst Porosity and Permeability	Theme 5: Advances in Unconventional Reservoir Characterization I: The Rocks	Theme 8: New Applications of Machine Learning to Subsurface Science	Theme 4: Global Studies of Extensional and Passive Margins	Theme 1: Deep-Water Systems Architecture: From Controls to Characterization
Monday 1:15 pm–5:05 pm	Discovery Thinking	Theme 2: Permian Basin Source to Sink Sedimentology and Stratigraphy	Theme 5: Unconventional Plays: Appalachians, Rockies, and Midcontinent	Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson I	Theme 1: Deep-Water Process Stratigraphy
Monday 5:10 pm–6:10 pm	Halbouty Lecture				
Tuesday 8:00 am–11:50 am	SEPM Research Symposium I: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record	Theme 5: Permian Basin Unconventionals	Theme 2: Depositional Models for Carbonate and Evaporite Systems	Theme 4: Compressional Environments: Trap to Basin	Theme 1: Source to Sink
Tuesday 1:15 pm–5:05 pm	SEPM Research Symposium II: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record (PICO Session)	Theme 5: Advances in Unconventional Characterization II: From Kerogen to Produced Petroleum	Theme 2: Microbial Carbonates – Modern and Ancient Analogs for Pre-salt Deposits	Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson II	Theme 10: Opportunity Valuation
Wednesday 8:00 am–11:50 am	Theme 10: Deals and Investment Decisions	Theme 5: Eagle Ford and Austin Chalk Unconventional Plays	Theme 1: Aeolian System Dynamics: What Have We Learned in the Last 50 Years?	Theme 4: Modeling of Structural and Geomechanical Processes	Theme 1: Applied Ichnology: In Honor of George Pemberton
Wednesday 1:15 pm–5:05 pm	Theme 10: Financing	Theme 5: Advances in Unconventional Reservoir Characterization III: Predictive Technologies	Theme 1: Innovation and Technology in Biostratigraphy for Challenging Times	Theme 4: Characterizing Brittle Deformation and Its Impact on Reservoirs	Theme 9: New Global Exploration and Play Concepts

POSTER SESSIONS AT A GLANCE

Monday 8:30 am–12:00 pm	AAPG Student Poster Session I	SEPM Student Poster Session I	Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson I	Theme 2: Carbonate Mixed Systems	Theme 1: Interaction Between Sedimentation and Tectonics I
Monday 1:30 pm–5:00 pm	Theme 5: Analytical Techniques for Unconventional Reservoirs	Theme 9: New Global Exploration Play Concepts	Theme 7: Integration of Geology and Geophysics	Theme 1: Circum-Gulf of Mexico Clastic Systems	Theme 1: Paralic and Shallow Marine Systems I: Process Variability and Impact on Reservoir Distribution and Architecture
Tuesday 8:30 am–12:00 pm	Theme 2: Carbonates – Fractures and Karst	Theme 2: Carbonates – Depositional Models I	Theme 3: Biomarker Applications in Petroleum Systems Analysis	Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson II	Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson III
Tuesday 1:30 pm–5:00 pm	Theme 7: Geophysics: Beyond Seismic Methods	Theme 2: Carbonates – Permian Basin	Theme 2: Carbonates – Depositional Models II	Theme 8: The Digital Transformation in the Geosciences	Theme 4: Structure and Geomechanics of Unconventional Plays
Wednesday 8:30 am–12:00 pm	Theme 6: Sustainability and Carbon	Theme 5: International Unconventional Plays	Theme 3: Hydrocarbon Migration and Charge Risk Assessment	Theme 1: New Advances in Mature Basins	Theme 1: Innovation and Technology in Biostratigraphy for Challenging Times

Theme 3: Geochemistry Applications in Petroleum Systems Characterization	Theme 9: Planetary Geology and Energy Frontiers	Theme 7: Integration of Geology and Geophysics	
Theme 2: Linked Systems of the Cretaceous Gulf of Mexico	Theme 1: Fluvial and Deltaic Depositional Environments: Reservoir Characterization and Prediction From Multiple Scale Analysis	Theme 6: Induced Seismicity and Water Management	
Theme 3: Hydrocarbon Migration and Charge Risk Assessment	Theme 8: Multi-Disciplinary Integration for Subsurface Efforts in the Age of Big Data	Theme 6: Sustainability and Carbon	
Theme 3: Integrated Workflows in Petroleum Systems Modeling	Theme 1: Paralic and Shallow Marine Systems: Process Variability and Impact on Reservoir Distribution and Architecture	The Big Crew Change: Passing the Baton and Challenges Awaiting Mid-Career Geoscientists	Theme 7: Remote Sensing, Monitoring, and Regional Studies
Theme 3: From Pores to Production: Unraveling Fluid Dynamics on Their Journey to the Surface	Theme 2: Carbonate Rock Properties and Reservoir Performance Prediction	DEG Special Session: Environmental Impact and Sustainability	
Theme 8: The Digital Transformation in the Geosciences	Theme 1: Diagenesis and Rock Property Trends in Siliciclastics	Theme 7: Near the Well and Beyond: Petrophysics, Rock Physics, and Hydraulic Fractures	

Theme 1: Interaction Between Sedimentation and Tectonics II	Theme 1: Continental Depositional Environments: Reservoir Prediction From Multiple Scale Analysis	Theme 4: Characterizing Brittle Deformation and its Impact on Reservoirs	Theme 5: Permian Basin Unconventionals	
Theme 1: Paralic and Shallow Marine Systems II: Process Variability and Impact on Reservoir Distribution and Architecture	Theme 3: Source Rock Depositional Environments	Theme 4: Global Perspectives on Extensional Deformation	Theme 8: Multi-Disciplinary Integration for Subsurface Efforts in the Age of Big Data	
Theme 1: Deep-water Sedimentology	Theme 1: Deep-water Systems: Currents and Resulting Fine(r)-grained Deposits	Theme 6: Induced Seismicity and Water Management	Theme 5: Unconventional Reservoir Technology	Theme 8: New Applications of Machine Learning to Subsurface Science
Theme 4: Modeling of Structural and Geomechanical Processes	Theme 1: Source to Sink I	Theme 1: Source to Sink II	Theme 5: Unconventional Reservoir Characterization I	Theme 5: Unconventional Reservoir Characterization II
Theme 4: Global Perspectives on Compressional Deformation	AAPG Student Poster Session II	SEPM Student Poster Session II	Theme 8: Application of Machine Learning to Imaging	



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TECHNICAL PROGRAM

Judges Needed!

Have you ever thought about volunteering as a technical presentation judge at ACE? Judges perform the crucial role of determining the winners of the Matson Memorial Award (for best oral presentation in an AAPG session), the Braunstein Memorial Award (for best poster presentation in an AAPG session) and the DEG, EMD, and SEPM Division Awards. Whether it's your 50th ACE or your first, participating as a judge is a great way to get involved and, best of all, it's easy. Just sign up during online convention registration and indicate which poster and/or oral presentations best fit your schedule and interests. All attendees, including students, YPs, Associates, and Members are encouraged to sign up. Worried you're not a subject matter expert? Don't be! Critical listening and thoughtful evaluation are the only required skills. Plus, you can network while you learn! Still unsure about being a judge? Email Rachel Piotraschke (rpiotraschke@aapg.org) with questions. See you in San Antonio!

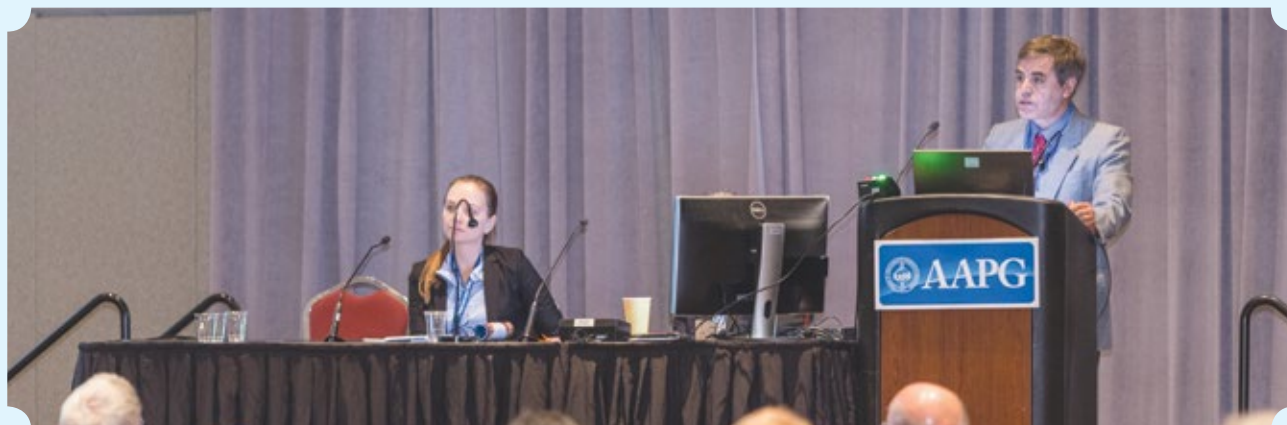
SUNDAY AFTERNOON ORAL SESSION

Step Changes in Petroleum Geology: Historical Challenges and Technological Breakthroughs

Co-Chairs: *M. R. Silverman and A. G. Haddad*

- **Major Trends Within American Association of Petroleum Geologists at Its Centennial:** D. A. Carlson
- **Shales That Burn:** R. P. Sorenson
- **Historical Transformation of the Petroleum System Methodology to Computerized Petroleum System Models and Linked Technologies:** K. E. Peters, L. B. Magoon, B. Wygrala
- **A History of Paleogeography in Exploration: Lessons From the Past for the Next Generation of Explorers:** P. J. Markwick
- **Petroleum Exploration Onshore Svalbard: A Historical Perspective on the Start of the Norwegian Oil Adventure:** K. Senger, P. Brugmans, S. Grundvåg, M. Jochmann, A. Nøttvedt, S. Olaussen, A. Skotte, A. Smyrak-Sikora
- **The Contribution of Geologists Arville Irving Levorsen and Walter Karl Link to the Development of Brazilian Oil Industry:** D. Peyerl, E. M. Moretto, S. F. Figueirôa
- **History of the Alberta Geological Survey and Its Contribution to the Petroleum Industry in Canada:** F. J. Hein, A. Beaton
- **The Astonishing Oil History of the Gaspé Basin and Its Long March Towards a First Commercial Success:** J. Marcil
- **History, Geology, and Politics of Livermore Oil:** A. K. Burnham

SUNDAY



TECHNICAL PROGRAM MONDAY

MONDAY MORNING ORAL SESSIONS

Theme 2: Characterizing Fracture and Karst Porosity and Permeability

Co-Chairs: P. J. Moore and F. Fernandez-Ibanez

- **Utilizing Well Bore Data to Characterize Non-Matrix Pore Types in Carbonates:** P. J. Moore, F. Fernandez-Ibanez, H. Al-Qassab, T. Buono, E. Bunge, S. M. Fullmer, S. L. LeBlanc, A. Nolting, J. Gulley
- **Mapping and Distribution of Karst Features on San Salvador Island, Bahamas Using a Morphometric Pattern Recognition Technique to Identify Depressions:** E. M. Bunge, T. Buono, J. Gulley, K. Galvez, S. L. LeBlanc, F. Fernandez-Ibanez, S. M. Fullmer, A. Nolting, P. J. Moore, L. Nachtegale
- **The Preservation of Near-Surface, Meteoric Caves at Depth: Observations From Subsurface Data and Numerical Modeling:** A. Nolting, P. J. Moore, J. Homburg, F. Fernandez-Ibanez, T. Buono
- **Fracture Development in the Interior of a Stable Carbonate Platform: New Evidence From the Distribution of Karst Features on Andros Island, Great Bahama Bank:** F. F. Whitaker, H. Mills, D. Leslie
- **Quantitative Assessment of Karst Pore Volume in Carbonate Reservoirs Using Discrete Karst Networks:** F. Fernandez-Ibanez
- **The Tidal Capillary Fringe as a Hot Spot for Dissolution in Eogenetic Carbonate Platforms:** J. Gulley, D. Breecker, M. Covington, P. J. Moore, J. Banner, C. Breithaupt, J. Martin
- **Calculating Regional Diffusivity of Bahamian Carbonates by Analysis of Tidal Oscillations in Wells, Boreholes, and Karst Features:** C. I. Breithaupt, J. Gulley, P. J. Moore, T. Buono, S. M. Fullmer, A. Nolting, E. Bunge, F. Fernandez-Ibanez, C. Kerans
- **Carbonate Shelf Margin Morphometrics: Insights From Multibeam and Airborne Lidar Bathymetry of the Caicos Platform:** C. K. Zahm, C. Kerans, D. Duncan, M. Davis
- **Reservoir Implications of Facies and Diagenetic Variability in an Oolitic Grainstone – Pleistocene Miami Oolite:** P. M. Harris, S. Purkis

Theme 5: Advances in Unconventional Reservoir Characterization I: The Rocks

Co-Chairs: J. P. Bhattacharya and A. F. Cadena

- **Using Noble Gases to Identify Hydraulic Fracturing “Sweet Spots” in Organic Rich Shales:** B. A. Lary, W. Eymold, C. J. Whyte, J. Harrington, J. Moortgat, T. Darrah
- **Numerical and Empirical Evaluation of Noble Gas Diffusivity to Reconstruct Paleo Fluid Flow in the Appalachian Basin:** W. K. Eymold, B. A. Lary, J. A. Harrington, C. J. Whyte, J. Moortgat, T. H. Darrah
- **Petrographic Evidence of the Origin of Differential Compaction in the Chert and Siliceous Shale Beds in the Woodford Shale of Oklahoma:** C. D. Hall
- **Niobrara Surface Seismic Data—Resolution Enhancement and Reservoir Characterization Through Wavefield Re-Datuming and Inversion:** J. Behura
- **Subseismic Scale Reservoir Complexity in a Multilayered Tight Reservoir: Combining New and Established Well Log Characterization Techniques With Seismic Attribute Analysis Sheds New Light on Reservoir Heterogeneity:** S. C. Iwuoha, D. Harazim, G. Austermann, P. K. Pedersen, C. R. Clarkson
- **Inner Shelf Mudstones in the Cretaceous Seaway – Processes and Products:** J. P. Bhattacharya, M. Wiercigroch, M. Leung, C. Genovese
- **Where is the Water?—A Physical Analysis of Hydraulic Fracturing Processes:** G. D. Couples
- **Applications of High-Resolution X-ray Fluorescence (XRF) Elemental Data in Mineral Modeling, Brittleness Indices, and Chemostratigraphic Correlation in the STACK Play of Central Oklahoma:** N. R. Hart, M. C. Dix, H. D. Rowe, A. Morrell, G. Torrez
- **Diagenesis of Mudstones: What Can We Learn From Magnetic Studies?:** M. Anson Sanchez, G. Heij, R. Elmore



Theme 8: New Applications of Machine Learning to Subsurface Science

Co-Chairs: C. Xu, C. Pellan, and S. Bhattacharya

- **Deep Learning Applied to Fault Interpretation and Attribute Computation:** D. P. Griffith, S. Zamanian, J. Vila, R. Potter, A. Vial-Aussavy, F. Menapace
- **Applying Conditional Generative Adversarial Networks for Seismic Data Reconstruction:** R. S. Ferreira, D. A. Oliveira, E. V. Brazil
- **Spatial Sampling Bias in Machine Learning Methods for Unconventional Resources:** W. Liu, S. Ikonnikova, M. Pyrcz
- **A Supervised Machine-Learning Approach to Stratigraphic Surface Picking in Well Logs From the Mannville Group of Alberta, Canada:** J. C. Gosses, L. Zhang
- **AI to Improve the Reliability and Reproducibility of Descriptive Data: A Case Study Using Convolutional Neural Networks to Recognize Carbonate Facies in Cores:** C. M. John, S. Kanagandran
- **Conditioning Stratigraphic, Rule-Based Models With Generative Adversarial Networks: A Deep-Water Lobe Example:** H. Jo, S. E. Santos, M. J. Pyrcz
- **Leveraging Probabilistic MVCA of Well Logs for Defining and Quantifying Sweet Spots in Heterogeneous Reservoirs:** E. V. Eslinger, F. Boyle, A. A. Curtis
- **Representation Learning in Seismic Interpretation:** S. Purves, D. Oikonomou, B. Alaei, E. Larsen
- **Comparison of Deep Learning Fault Interpretation From Seismic Data With Traditional and Attribute Based Techniques:** G. S. Paton, J. Lowell, W. Thorley, GeoTeric

Theme 4: Global Studies of Extensional and Passive Margins

Co-Chairs: S. J. Wilkins and C. Donohue

- **The Concertina Coast: A 300-Million-Year History of Extension Punctuated by Inversion and Reactivation Along Australia's Northern Margin:** M. Keep
- **Lithospheric Evolution Along a Slowly Rifted Passive Margin: Otway Basin, Southeast Australia — A Pragmatic Approach for Petroleum Systems Modeling:** D. B. Palmowski, A. Kleine, B. Bosbach

- **Segmentation and Mechanism of Differential Extension in the Continental Marginal Basins of the Northern South China Sea:** Y. Zhang, J. Qi
- **Restoring Seismic Images Based on Structural Forward Models to Reveal the Interplay Between Faulting, Erosion, and Fluvial Processes at a Basin-Bounding Growth Fault in the Bohai Bay, China:** N. Eichelberger, A. Nunns, N. D. Perez, S. Ball, D. He
- **Detailed Fault Mapping at Pre-Rift Reservoir Level Below Syn-Rift Miocene Salt and Impact of Fault Dip on Reserve Estimation: Case Study From the Southwestern Gulf of Suez, Egypt:** I. Attia, A. R. Moustafa, H. Ewida, S. A. Aly
- **Reconstruction and Forward Modeling of Deep-Water Basins on the Hyperextended Atlantic Margins:** R. Whittaker, B. Ady
- **Plates to Prospects: Interplay Between Crustal Structure and the Development of the Deep-Water Fold-and-Thrust Belts Offshore Northeast Mexico:** P. A. Marshall, D. Carruthers, C. Watkins, P. Marshall, A. Juhasz, A. Palombo, S. Roy
- **Restoring the Late Jurassic Conjugate Margins of the Gulf of Mexico: Recent Progress and Remaining Problems:** P. Mann, A. Steier, P. Lin
- **Spanning the End-Member Break-Up Models: Towards A Full Tectonostratigraphic Model for the South Atlantic From Conjugate Margin Data:** K. McDermott, S. Patruno, N. Hurst, L. Fullarton, P. Bellingham

Theme 1: Deep-Water Systems Architecture: From Controls to Characterization

Co-Chairs: Z. Sylvester and S. Barker

- **Controls on Shelf-Margin Architecture and Deep-Water System Development in Contrasted Tectonic and Climatic Settings: Insights From Quantitative 3-D Seismic Stratigraphy:** V. Paumard, S. Lang, J. Bourget, A. Gartrell, T. Nguyen
- **Initiation and Growth of a Giant Paleogene Slope Fan Over Stacked Mass Transport Complexes, Offshore Newfoundland, Canada:** L. C. Henry, R. D. Faerber, D. Steinhoff, M. Bolivar, E. Browning
- **Submarine Canyon Formation During Sea-Level Rise:** J. A. Covault, Z. Sylvester, D. B. Dunlap
- **Westward-Ho: Why Do Most Turbidite Reservoirs Offshore Ghana Stack to the West, and What Impact Does This Have on Reservoir Heterogeneity, Modeling, Connected Volume, Well Placement, and on Exploration?:** B. T. Cronin

TECHNICAL PROGRAM MONDAY

- **Controls on Deep-Water Cutoff Styles and Their Impact on Stratigraphic Architecture:** P. D. Morris, J. A. Covault, Z. Sylvester
- **The Cape Freels Fan: 3-D Seismic Observations That Challenge the Turbidite Fan Paradigm:** R. T. Beaubouef, R. O. Bracht, S. M. Donnelly, R. J. Fitzsimmons
- **What Lies Beneath? The Sub-Seismic Character of 'The Perfect Fan':** A. S. Pontén, A. Groth, I. Kane, I. Netland, S. Lund Jensen
- **Heterogeneity in Unconfined Deep-Water Fans: Insights From a Quantitative Evaluation of Outcrop, Subsurface, and Computational Stratigraphy:** F. J. Laugier, T. Sun, M. D. Sullivan, A. D. Harris, A. S. Madof
- **Stratigraphic and Facies Architecture of the Delaware Mountain Group, Delaware Basin: Implications for Disposal of Hydraulic Fracturing Wastewater:** K. M. Smye, D.A. Banerji, H.S. Hamlin, R. L. Eastwood, C. R. Lemons, G. McDaid, P. H. Hennings

Theme 3: Geochemistry Applications in Petroleum Systems Characterization

Co-Chairs: K. E. Peters, D. Schumacher, and I. Arango

- **Geochemical and Biomarker Evidence of Microbial Community Changes During Lower Cretaceous OAE 1b: Comanche Shelf, Glen Rose Formation, Central Texas:** X. Sun, R. Forkner
- **Oil to Source Rock Correlation of the Lower Cretaceous in the East Texas Basin:** J. Zumberge, S. Brown, J. Kast, H. Illich, J. Curtis*
- **Trace Metal Variability in the Lower Bakken Formation – Implications for Late Devonian Global Ocean Redox:** S. Sahoo, K. S. Hlava, B. S. Hart
- **Sedimentation Rate Variations and Trace Metal Elements as Paleoenvironmental Proxies: What Are We Doing Wrong?:** V. Crombez, S. Rohais, E. Hernandez Bilbao, L. Riquier, T. Euzen, F. Baudin
- **The Confusion About Thermal Maturity With Respect to Vitrinite Reflectance, Tmax, and Other Proxies:** B. J. Katz, F. Lin
- **Biomarker Geochemistry of Early Cretaceous Sediments From West Africa:** X. Cui, B. D. Wignall, K. H. Freeman, R. E. Summons*

- **Chemometric Identification and 1-D Modeling of Geochemically Distinct Oil Tribes, an Integrated Approach to Petroleum System Analysis in the Middle Magdalena Valley, Colombia:** W. Thompson-Butler, K. E. Peters, L. B. Magoon, J. Moldowan, A. Hosford Scheirer, V. O. Blanco Velandia, S. A. Graham
- **A Regional Framework With New Insights Into the Petroleum Systems of the Carson-Bonneton-Salar Basins, Offshore Newfoundland and Labrador, Canada:** D. Norris, E. Gillis, L. Stead, V. Mitchell
- **Top Down Petroleum System Analysis: Exploiting Geospatial Patterns in the Properties of Hydrocarbon Fluids:** Z. He, A. Murray

Theme 9: Planetary Geology and Energy Frontiers

Co-Chairs: W. A. Ambrose and D. J. Cook

- **Effects of the Chicxulub Impact Found in the Subsurface of Northern Louisiana:** G. L. Kinsland
- **The Next Generation Planetary Exploration Geophysical System:** M. A. Brzostowski, D. Feustel
- **Energy and Minerals Drive Commercial Space Exploration:** B. L. Cutright, W. A. Ambrose
- **Return to the Moon: Risks and Rewards:** W. A. Ambrose
- **Mars In Situ Resources and Utilization for Human Settlement:** D. J. Cook
- **Using Potash Identification (PID) Plot to Distinguish Commercial Potash Mineralization:** D. G. Hill
- **Geoscience Perspectives on Technology Development in Energy Storage and Implications for Strategic Mineral Exploration:** E. N. Wilson, J. R. Edmondson
- **Geothermal Resource Characterization of the Middle Devonian Slave Point Formation at Clarke Lake Field, Fort Nelson, B.C., Canada:** E. Renaud, N. B. Harris, J. Banks, J. A. Weissenberger
- **Electricity Generation Potential of Co-Produced Water From Active Oil Wells in Eagleview Field, Eagle Ford Shale, Karnes and Gonzales County, Texas:** G. J. Thomas



Theme 7: Integration of Geology and Geophysics

Co-Chairs: *T. Santana and Y. Li*

- **Process-Like Modeling in Turbiditic Channel Environments Constrained by Well Data, 3-D and 4-D Seismic Attributes Application to Offshore West Africa Data:** A. Barnola, S. Chokr
- **Predrill Lithoclassification in the Wolfcamp, Permian Basin, and Other Clay-Rich Plays: The Necessity of Prestack Seismic Inversion:** S. Dasgupta, C. Sayers, D. Paddock*
- **Geology and Geophysics Integrated Quantitative Characterizations of Complex Carbonate Fractured-Vuggy Reservoirs of Central Uplift in Tarim Basin:** F. Tian, X. Luo, H. Yang, S. Li, Z. Wang, C. Shen, W. Zhang, S. Yin, R. Pei, B. Zhang
- **Prospect De-Risking Using Seismic Forward Modeling of Frequency RGB Blends:** G. Paton, R. M. Williams, R. Moore
- **Feasibility Study of Improved Reservoir Mapping Using Joint Inversion of Extra-Deep Azimuthal Resistivity and Deep Shear Wave Imaging:** Z. Wei, L. Wang
- **Workflow for Zoeppritz AVO Inversion to Estimate Seismic Anisotropy and Geomechanical Properties of Shale: Case Study of Avalon Shale, Delaware Basin:** U. Lim, N. Kabir, R. Gibson
- **3-D Seismic Characterization of Paleokarst Collapse Features in the Arkoma Basin, Oklahoma:** O. Aboaba, C. Liner
- **Fine Lithology and Sedimentary Facies Prediction of Carbonate Based on the Amplitude Attribute of Converted Shear Wave:** H. Wang, J. Gao, X. Guan, S. Li, J. Gui, X. Guo
- **Acquisition Modeling for Full Waveform Inversion Model Building in the Gulf of Mexico:** H. H. Roende, D. Bate, J. Sheng, J. Kegel, T. Jhonson

MONDAY MORNING POSTER SESSIONS

AAPG Student Research Poster Session I

Co-Chairs: *G. A. Janevski and B. Strickland*

- **Evolution of Submarine Channel-Lobe Systems on a Salt-Influenced Passive Margin, Offshore Angola:** D. Howlett, R. L. Gawthorpe, A. Rotevatn, Z. Ge, C. A. Jackson
- **A New Modeling Approach for Turbidite Stratigraphic Trap and Reservoir Distribution Prediction: Examples Using Deep-Water Systems of the East Coast Basin, New Zealand:** A. Crisostomo Figueroa, A. D. McArthur, L. Amy, R. Dorrell, W. McCaffrey
- **Seismic Geomorphology of Deep-Water Rift Basins – Depositional Architectures in a Late Jurassic Syn-Rift Turbidite Province Offshore Norway:** F. Tillmans, R. L. Gawthorpe, A. Rotevatn, C. A. Jackson, G. A. Henstra, W. S. Helland-Hansen
- **Deep Oil Cracking, TSR, Gas Invasion and Formation Mechanisms of Large Multi-Phase Reservoirs:** Z. Zhang, G. Zhu
- **Climatically Influenced Progradation of a Deep-Water Turbidite Fan, Late Pliocene Syn-Rift Succession, Corinth Rift, Greece:** G. Eliassen, R. L. Gawthorpe, M. Muravchik, G. A. Henstra, H. Kranis, E. Skourtsos
- **Selective Charging of Neogene Sand Bodies in Meandering Fluvial Systems in the Bohai Bay Basin, China:** K. Zhao, Y. Jiang, H. Hu
- **Top Seal Evaluation of Miocene Deep-Water Reservoirs, Southern Gulf of Mexico:** F. A. Apango, J. W. Snedden
- **Understanding Fluvial to Shallow Marine Clastic Reservoir Heterogeneity From Modern Analogs Resolved by Core, GPR, and Drone Photogrammetry:** P. D. Duff
- **Bed-Scale Modeling of Deep-Water Architectural-Elements: What Heterogeneities Matter to Flow?:** D. Bell, A. S. Ponten, I. A. Kane, K. Nair, A. Obradors Latre, C. Thrana, D. M. Hodgson
- **Controls of Cenozoic Mass Transport Deposits on Hydrocarbon Prospectivity of the Mexican Ridges Fold-Belt, Western Gulf of Mexico:** J. Kenning, P. Mann
- **Migrating Submarine Channels Controlled by Contemporaneous Mass Transport Deposits (MTDs) Emplacement: 3-D Seismic Evidence From Offshore Taranaki, New Zealand:** J. C. Nwoko, I. Kane, M. Huuse

TECHNICAL PROGRAM MONDAY

- **Characterization of Stacked Meander-Belt Deposits and Implications for Steam Assisted Gravity Drainage, McMurray Formation, Alberta, Canada:** J. Curkan, S. Nejadi, P. Durkin, S. M. Hubbard
- **Allogenic Versus Autogenic Controls on Sedimentation in the Fluvial-to-Marine Transition Zone: A Subsurface Study From the Dhurma Formation, Rub' Alkhali, Saudi Arabia:** B. H. Alshammari, N. P. Mountney, L. Colombero
- **Identifying Compartmentalized Sections of Lower Vicksburg Reservoirs and the Potential for Directional Drilling in McAllen Ranch Field, Hidalgo County, Texas:** M. A. McAllen, D. Van Nieuwenhuise
- **The Variability of Reservoir Quality in Submarine Slope Channel Complexes: Insights From an Outcrop Analog, Tres Pasos Formation, Chilean Patagonia:** A. Fuhrmann, B. Daniels, S. M. Hubbard, I. Kane, R. Brunt
- **Refining the Depositional Environments of Epeiric Sea Carbonates Through Applying Ichnologic Toolbox: A Case Study of the Upper Ordovician Stony Mountain Formation in the Williston Basin, Canada:** C. Zheng, M. Mángano, L. Buatois
- **Ichnological Expressions of Low Oxygen Settings: An Ichnological Analysis of the Canol Formation, Northwest Territories, Canada:** S. K. Biddle, M. T. LaGrange Rao, B. Harris, K. M. Fiess, V. Terlaky, M. Gingras
- **Depositional Controls on the Origin of Clay Minerals in the Mancos Shale (Turonian Age), Henry Mountains Region, South-Central Utah:** Z. Li, J. Schieber, D. Bish
- **Paleodrainage Reconstruction of the Cretaceous Gallup Sandstone Formation, New Mexico: Insights From U-Pb Detrital Zircon Geochronology:** C. Ferron, J. Bhattacharya
- **Quantitative Analysis of the Green River Formation, Piceance Basin, Colorado: A Useful Tool to Elucidate the Depositional Process of the Paleolake:** T. Wu, J. Boak

SEPM Student Research Poster Session I

Co-Chairs: *H. E. Harper and J. F. Sarg*

- **The Diversity of Bottom-Current Influenced Submarine Slope Channel Complexes: Insights From Offshore Tanzania:** A. Fuhrmann, I. Kane, R. Ferguson, E. R. Schomacker, S. Barker, R. Brunt
- **Syn-Depositional Tectonics Control Three-Dimensional Channel Organization at Multiple Scales: The Arro Turbidite System, Aínsa Basin, Spanish Pyrenees:** D. E. Tek, M. Poyatos-Moré, M. Patacci, L. Colombero, A. D. McArthur, W. D. McCaffrey
- **Evaluating the Relationship Between Stoichiometry and Cation Ordering in Ancient Dolomites:** C. J. Manche, S. E. Kaczmarek
- **Interpreting Amalgamation Processes of a Fluvial Sandstone of the Nacimiento Formation in the San Juan Basin, New Mexico:** K. E. Miltenberger, G. S. Weissmann
- **From River to Delta: Down-Dip Changes in Amalgamated Sheet Sandstones Along an Exhumed Transect:** A. E. van Yperen, M. Poyatos-Moré, J. M. Holbrook, I. Midtkandal
- **Modeling Heterogeneities: A Quantitative Analysis of Two Slope Channel Systems: Laguna Amarga, Cerro Toro Formation, Chile and Canyon San Fernando, Rosario Formation, Mexico:** D. I. Mendez Fermin, B. Kneller
- **Unraveling the Complex Tectonostratigraphic Evolution of the Ventura Basin, California, Using Detrital Zircon Mixture Modeling:** J.C. Gilbert, Z. R. Jobe, G. R. Sharman, S. A. Johnstone

Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson I

Co-Chairs: *M. Nikolinakou and O. Duffy*

- **Shortening of Diapir Provinces: Translation, Tilting, and Rotation of Minibasins in Isolated Minibasin Systems:** T. P. Dooley, M. R. Hudec, O. Duffy, N. Fernandez
- **The Messinian Salt Layer Squeezed by Active Plate Convergence in the Western Mediterranean Margins:** J. I. Soto, J. Déverchère, M. Medaouri, P. Leffondré
- **Radial Fractures and Ring Faults in Sediments Overlying Layered Evaporite Sequences During Active Salt Diapirism: Insights From Geomechanical Forward Modeling:** P. Nso, A. Eckert
- **Deep-Water Reservoir Distribution in a Syn-Depositionally Active Salt-Confined Mini Basin-Fill:** Z. A. Cumberpatch, I. A. Kane, C. A. Jackson, D. M. Hodgson, E. L. Soutter, B. Kilhams, A. Martinez-Doñate Gomez, D. Lee, M. Huuse, M. Finch, L. Pichel
- **Barrier vs. Conduit Behavior of Faults Near Salt: Examples From the Gypsum Valley Salt Wall, Paradox Basin, Colorado:** L. Lueck, M. Fischer
- **Sequential Structural Restoration of the Lisbon Valley Anticline, Paradox Basin, Utah:** S. H. Lingrey
- **Controls on Compartmentalization Within Supra-Salt Crestal Fault Systems: A Case Study From the Salt Valley Salt Wall, Paradox Basin, Utah:** T. Randles, S. M. Clarke

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TECHNICAL PROGRAM MONDAY

- **Along-Strike Variation of Halokinesis and Structural Inheritance Along the West African Salt Basin, South Atlantic:** E. V. Legeay, J. Ringenbach, J. Callot, J. Ballard
- **Evidence for Permo-Triassic Salt Tectonics in the Eagle Basin, Colorado, USA:** R. W. Pearigen, B. D. Trudgill, T. E. Hearon, M. Carr
- **Role of Side-Burden Strength in the Shaping of Active Salt Diapirs:** R. Goteti

Theme 2: Carbonate Mixed Systems

Co-Chairs: X. Janson and J. Gomes

- **Climatic Signals in Lacustrine Deposits of the Upper Yacoraite Formation, Western Argentina: Evidence From Clay Minerals, Dolomite, and Radial Fibrous Calcite:** J. Borges Gomes, R. Bunevich, S. Tonietto, D. B. Alves, J. F. Santos, F. F. Whitaker
- **Stratigraphic Architecture of the Desmoinesian Bug Scuffle Limestone, Sacramento Mountains, New Mexico:** B. Rendall, G. P. Wahlman, C. Kerans
- **Mixed Carbonate and Clastic Mass Failures in a Sub-Lacustrine Settings: Implications for Unconventional Hydrocarbon Systems, a Study of the Green River and Uinta Formations (Eocene), Uinta and Piceance Basins, Utah and Colorado:** F. McFarlin, L. J. Wood, J. F. Sarg, M. Pommer
- **A 3-D Seismic Study of Upper Palaeozoic Carbonate and Spiculites Deposition on the Eastern Finnmark Platform (Norway):** X. Huang
- **Stratigraphic Architecture and Sediment Partitioning in the Mixed Carbonate-Siliciclastic Bone Spring Formation, Delaware Basin, Texas:** W. Walker, Z. R. Jobe
- **Growth Anatomy of a Modern Rift Basin Carbonate Platform (Al Wahj, Red Sea): Interplay of Rift Faulting, Salt Tectonics, Eustacy, and Climate:** P. Khanna, V. C. Vahrenkamp, B. Yalcin, A. Ramdani
- **The Late Jurassic Great Barrier Reef of the North American Atlantic Continental Margin: Initial Findings From Basin Analysis-Seismic Stratigraphy:** R. Zhai, J. D. Pigott, K. L. Pigott
- **Carbonate Reservoir Distribution in a Complex, Mixed Depositional System: A New Stratigraphic Model for the Relationships Between the Paleocene – Eocene Sinjar, Khurmala, and Kolosh Formations in the Kurdistan Region of Iraq:** R. Dvoretzky, N. Raterman, B. Hasan, D. Goff

Theme 1: Interaction Between Sedimentation and Tectonics I

Co-Chairs: J. C. Pickens, T. Schwartz, and I. R. Clark

- **Tectonic Evolution and Distributions of Triassic Sandstone at Bird Head Area: Implication of New Hydrocarbon Plays in West Papua, Indonesia:** B. Sapiie, I. Gunawan, S. Damayanti, A. Shirly, W. Kurniawan
- **Using Landscape Evolution Modeling to Evaluate Potential for Buried Mega-Landslide Reservoir Units Within the Basin and Range, Western USA:** N. T. Ferry, D. M. Sturmer, D. J. Ward
- **Along-Strike Prediction of Syn-Rift Fan Delta Architecture With Field, Subsurface, and Numerical Modeling Investigations:** B. J. Barrett, D. M. Hodgson, R. E. Collier, R. L. Gawthorpe, R. Dorrell, T. M. Cullen
- **Fluvial Architectures in Active Rift Settings:** D. J. Somerville, N. P. Mountney, L. Colombero, R. E. Collier
- **High-Resolution Seismic Imaging and Modeling of Structural and Stratigraphical Features in the Southwest Barents Sea:** T. Faleide, A. Braathen, S. Planke, I. Midtkandal, R. Corseri, J. Faleide
- **Synsedimentary Faulting Controls on Sandstone Distribution in an Incipient Slope System, Tres Pasos Formation, Southern Chile:** S. Kaempfe, B. Romans, S. M. Hubbard, L. E. Stright, R. Englert, B. Daniels, D. Niquet
- **Sediment Routing and Provenance of Deep Marine Sandstones in the Late Paleozoic Oquirrh Basin, Utah:** A. Jones, D. Sturmer
- **Probabilistic Assessment of Sand Presence in Continental Rift Settings:** A. D. Harris, P. J. Lovely, S. Baumgardner, K. Ghayour, T. Engelder, T. Sun, R. P. Lyons, D. Granjeon
- **Controls on Submarine Channel Type and Distribution in Complex Tectonic Settings: Examples From the Hikurangi Subduction Margin, New Zealand:** A. D. McArthur, A. Wunderlich, D. E. Tek, A. Karvelas, W. D. McCaffrey
- **Structural Controls on Sequence Stratigraphic Architecture During Rift Basin Development: An Example From the Northern Carnarvon Basin, North West Shelf, Australia:** A. Gartrell, J. Torres, M. Dixon, M. Keep



Theme 1: Interaction Between Sedimentation and Tectonics II

Co-Chairs: *J. C. Pickens, I. R. Clark, and T. Schwartz*

- **Variable Inversion of Polyphase Rift Basins Impacts the Triassic Sequence Architecture of the North West Shelf, Australia:** A. Gartrell, M. Keep, C. van der Riet, L. Paterniti, S. Ban
- **Mobile Shale's Evolution and Deformational Patterns in a Neogene Gravity-Driven System, Offshore Western Niger Delta:** K. I. Chima, N. M. Hoggmascall, M. Mora-Glukstad, D. Do-Couto, E. Leroux, M. Rabineau, D. Granjeon, C. Gorini
- **Exploring in Mixed Axial and Transverse Post-Rift Deep-Water Systems: The Cretaceous Lysing Formation, Offshore Norway:** L. Hansen, D. M. Hodgson*, A. S. Ponten, C. Thrana, A. Obradors Latre, S. S. Flint
- **Stratigraphy and Sedimentology of the Upper Bakken, Cottonwood Canyon and Lower Banff Section: Complexities Associated With Fine-Grained Depositional Systems in a Tectonically Active, Low-Accommodation Setting, and Their Implications on the Bakken Petroleum System:** J. C. Hohman, J. Guthrie, N. Hogancamp
- **Evolution of the Miocene Manantiales Basin, South-Central Andes: Evidence for Strongly Coupled Rapid Basin Subsidence and Exhumation:** J. Mahoney, M. A. Mazzitelli, J. Suriano, D. L. Kimbrough, J. Metcalf, J. Metcalf, A. Lossada, L. B. Giambiagi, J. F. Mescua
- **Tectonically-Controlled Submarine Canyon Initiation, Fill and Abandonment Constrained by Detrital Zircon Geochronology: Cretaceous Punta Baja Formation., Baja California, Mexico:** I. Kane, D. M. Hodgson, S. M. Hubbard, A. D. McArthur, M. Poyatos-Moré, W. A. Matthews, S. S. Flint
- **Study on the Simulation Experiment of the Sedimentary Process and Sedimentary Architecture of the Alluvial Fan Under the Control of Normal Faults:** S. Wei, Z. Liu, X. Wang
- **Deep-Water Channels "Swept" Downstream After Bend Cutoff in Salt Basins:** J. A. Covault, Z. Sylvester, M. R. Hudec, C. Ceyhan, D. B. Dunlap
- **A New Model for the Mesozoic Tectonostratigraphic Evolution of the Gulf of Mexico Basin: New Plate Tectonic and Sediment Routing Reconstructions:** J. W. Snedden, I. Norton, Institute for Geophysics
- **Three-Dimensional Forward Stratigraphic Modeling of the Sedimentary Architecture of Meandering-River Successions in Half-Grabens:** N. Yan, L. Colombero, N. P. Mountney

Theme 1: Continental Depositional Environments: Reservoir Prediction From Multiple Scale Analysis

Co-Chairs: *T. Payenberg, B. Vakarelov, and C. Wu*

- **Modeling 3-D Facies Architecture and Heterogeneity of Fluvial Point-Bar Elements Recording Meander-Bend Rotation: Implications for Reservoir Compartmentalization:** N. Yan, L. Colombero, N. P. Mountney
- **Three-Dimensional Eolian Bounding Surface Architecture of the Entrada Sandstone, Utah: Expanding Our Understanding of Reservoir Heterogeneity in Wet Eolian Systems:** E. Gross, M. Carr, Z. Jobe
- **Quantitative Prediction of Sandbody Connectivity Within Distributive Fluvial Systems Using Process-Based Numerical Modeling:** S. Worms, C. M. Griffiths, A. Owen, J. A. Howell, A. J. Hartley
- **Quantitative Fluvial Facies Models as Guides to Subsurface Interpretations:** L. Colombero, N. P. Mountney
- **Stratigraphic Architecture of Exhumed Fluvial Channel-Belts: Anatomy of an Avulsion:** C. M. Speed, Z. Sylvester, P. P. Flaig, P. Durkin, B. T. Cardenas, T. A. Goudge
- **Lessons From an Extensive Fluvial Channel and Channel Belt Parameter Database Based on Modern Data: Key Learnings and Practical Applications for the Subsurface:** B. K. Vakarelov, N. Paneva, O. K. Vakarelov, T. Payenberg
- **Basinward Trends in Fluvial Architecture, Connectivity, and Reservoir Characterization of the Trail Member, Ericson Sandstone, Mesaverde Group in Wyoming, Utah, and Colorado, USA:** C. A. Jolley, S. M. Hudson
- **The Interactions of Volcanism and Clastic Sedimentary Systems in Rift Basins: An Example From the Paleogene Bohai-Bay Basin, China:** H. Chen, X. Zhu, R. L. Gawthorpe, L. J. Wood, Q. Liu
- **Climatically Controlled Lacustrine Clinoforms: Theoretical and Modeling Results:** J. Zhang, C. Olariu, R. J. Steel, W. Kim
- **Sedimentary Characteristics of Hyperpycnites of the Lower Cretaceous Xiguayuan Formation in Luanping Basin, Northeast China: Implication for Lithological Reservoir Exploration in Ramp Margin of Rift Lacustrine Basins:** L. Dou, J. Hou, Y. Liu, L. Zhang, S. Song

TECHNICAL PROGRAM MONDAY

Theme 4: Characterizing Brittle Deformation and Its Impact on Reservoirs

Co-Chairs: J. F. Gale and R. A. Nelson

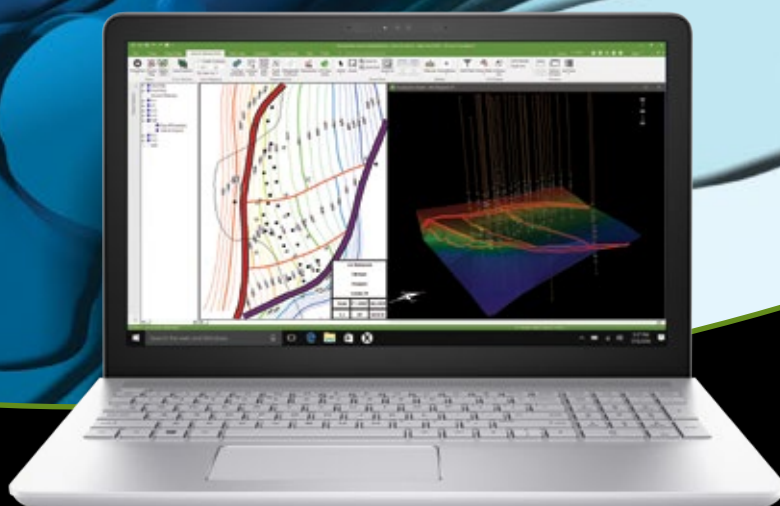
- **Fault Zone Oil Migration Pathways in Austin Chalk, Southwest Texas:** D. A. Ferrill, M. A. Evans, R. N. McGinnis, A. P. Morris, K. J. Smart, D. Lehrmann, K. D. Gulliver, Z. T. Sickmann
- **Ultrasonic Monitoring of Fracture Propagation and Complexity in Laboratory-Scale Hydraulic Fracturing Experiments:** T. E. Witham, C. Marone, P. Shokouhi
- **Fracture Patterns and Petrophysical Properties in the Kuqa Depression, Tarim Basin, and Their Relationship With Regional Folding:** Z. Wang, X. Lv
- **Uncertainty Analysis in Capillary Controls Across Faults:** R. K. Davies, D. Povey, P. Wilson, S. Harris
- **Structural Analysis and 3-D Modeling of a Naturally Fractured Field in the South-East Gulf of Mexico:** L. B. Sanchez, S. Mitra, R. H. Peterson, K. J. Marfurt
- **Reducing Uncertainty in Fracture Modeling: Assessing User Bias in Interpretations from Satellite Imagery:** J. J. Long, R. R. Jones, S. E. Daniels, S. R. Gilment, D. M. Oxlade, M. W. Wilkinson
- **Quantified Fracture (Joint) Clustering in Archean Basement, Wyoming: Application of Normalized Correlation Count Method:** Q. Wang, S. E. Laubach, J. F. Gale, M. Ramos
- **Host Rock Controls on the Petrophysical Properties of Carbonate-Hosted Fault Rocks: A Case Study From Malta:** A. Cooke, Q. J. Fisher, E. A. Michie, G. Yielding
- **Analogous Juxtaposition of Mixed Lithologies Against a Siliciclastic Hydrocarbon Reservoir and Proposed CO₂ Storage Formation in the Norwegian North Sea:** J. L. Osmond, M. J. Mulrooney, E. Skurtveit, A. Braathen

Theme 5: Permian Basin Unconventionals

Chair: P. Welch

- **US Geological Survey Assessment of Undiscovered Petroleum Resources in the Wolfcamp Shale and Bone Spring Formation of the Delaware Basin, Permian Basin Province, Texas and New Mexico:** S. B. Gaswirth
- **The Geology and Geochemistry of Helium CO₂ and Low-BTU Hydrocarbon Reservoirs in the Permian Basin:** T. Darrah, J. Harrington, C. J. Whyte, E. L. Frost, R. Poreda
- **Production Profiles and Geologic Characteristics of the Wolfcamp Play:** O. H. Olga, G. Long, J. Little, S. Grape, E. Panarelli, E. Geary, A. Patel
- **Grain Assemblages and Diagenesis in Organic-Rich Mudrocks, Late Pennsylvanian Cline Shale (Wolfcamp D), Midland Basin, Texas:** J. Peng, K. L. Milliken, Q. Fu, X. Janson, S. Hamlin
- **3-D Basin Modeling of the Permian Delaware Basin: Tectonic Evolution Assessment to Improve Definition of Boundary Conditions:** M. R. Becker, A. Miceli Romero
- **XRF and Lidar Survey of Bone Canyon, West Texas: A High-Resolution Sequence Stratigraphic Framework Providing Insight Into Updip Deep-Water Lithofacies:** A. Brown, J. D. Pigott
- **Geochemical Characterization of Drill Cuttings to Improve Facies Classification Schemes, Refine Depositional Models, and Serve as a Predictive Tool of Rock Properties in the Delaware Basin:** M. Nieto, H. Rowe, M. Hemenway, A. Morrell, R. Krumm, E. Matheny, H. Garza
- **Refining XRF Lithofacies With SEM Analysis for the Permian Wolfcamp Shale From the Delaware Basin, Texas:** R. M. Reed, R. W. Baumgardner, S. C. Ruppel
- **Chemofacies in the Wolfcamp Group Outcrops, Glass Mountains, West Texas:** M. A. Gutierrez, B. Richards, A. D. Donovan, M. C. Pope
- **The Evolution of the Delaware North West Shelf:** R. Ball, S. Kimiagar*

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TECHNICAL PROGRAM MONDAY

MONDAY AFTERNOON ORAL SESSIONS

Discovery Thinking Forum – “Pioneering Discoveries Driving Prosperity”

Chair: *C. Sternbach*

See page 13 for more information on this special session.

- **ExxonMobil Guyana Exploration and Discovery:** TBA
- **Discovery of Oil in Belize After Fifty Dry Holes: Geological Insights and Exploration Timeline:** S. Morrice
- **Permian Basin Wolfberry and Wolfbone: Discovery of World-Class Resources in a Mature Basin and New Insights:** B. Fairhurst
- **Discovery of the Unconventional Vaca Muerta Shale Play in the Neuquén Basin, Argentina:** C. Macellari

Michel T. Halbouty Lecture (AAPG): The Future of Oil and Gas Exploration

Chair: J. Gibbs

See page 14 for more details on this special presentation

Speaker: **Stephen M. Greenlee**, President, ExxonMobil Exploration Company

Theme 2: Permian Basin Source to Sink Sedimentology and Stratigraphy

Co-Chairs: *C. Kerans and L. Frost*

- **Anatomy of a Paleozoic Super Basin – The Permian Basin, USA: Geology, Depositional History, Basin Evolution, and Reservoir Development:** S. C. Ruppel, S. Nance, S. Hamlin, R. R. Harrington, R. G. Loucks, C. Kerans, Q. Fu, W. R. Wright
- **Contrasting Guadalupian Infill Histories of the Midland and Delaware Basins:** C. Kerans, R. D. Dommissie, J. Rush, L. E. Waite
- **Sequence Stratigraphic Model and Depositional Setting of The Permian Wolfcamp Tight Oil Play: Linking the Delaware and Midland Basins Through a Unified Stratigraphic Framework:** R. D. Wilson, T. Perkes, G. Hurd, M. D. Sullivan, S. J. Prochnow
- **The San Andres (G9) – Grayburg (G10) Forced Regressive Turnaround, Brokeoff Mountains, New Mexico, USA:** J. Rush,
- **Basement-Rooted Fault Systems of the Midland and Delaware Basins and Their Influence on Early Permian Facies Distributions:** C. K. Zahm, C. Kerans, X. Janson, R. D. Dommissie, B. J. Price

- **Controls on Wolfcampian and Leonardian Slope Morphology and Implications for Basinal Sedimentation Patterns and Stratigraphy, Delaware Basin, Southeast New Mexico and West Texas:** B. J. Price, X. Janson, C. Kerans
- **Facies Variability Within a Single, Deep-Water Basin-Floor, Mixed Carbonate-Siliciclastic Fan (Upper Wolfcamp Formation, Permian, Delaware Basin, New Mexico):** E. P. Kvale, C. M. Bowie, C. Mace, B. Price, J. Borell
- **Detrital Zircon U-Pb Data From the Permian Basin – Implications for Pangea Assembly, Southern Provenance and Sediment Routing:** D. F. Stockli, G. M. Soto-Kerans, L. Liu, N. Hu, X. Janson, J. A. Covault
- **Contrasting the Stratigraphic Architecture of Carbonate Platform Across a Foreland Basin: Permian Carbonate Shelves of the Delaware Basin:** X. Janson, A. R. Hairabian, G. S. Hurd

Theme 5: Unconventional Plays: Appalachians, Rockies, and Midcontinent

Co-Chairs: *D. R. Blood and L. Ko*

- **Methods to Assess Thermal Maturity of the Deep Utica/Point Pleasant Play in the Appalachian Basin:** T. A. Bardol
- **Hunton Limestone: A Highly Fractured, Natural Gas-Driven, Multiple Pay Carbonate Reservoir Within the STACK Play, Central Oklahoma:** S. Pinta, Husky
- **Facies, Depositional Environments, Chemostratigraphy, and Reservoir Quality of the Middle Devonian Marcellus Formation, Appalachian Basin, Northeastern Pennsylvania:** L. Ko, T. Larson
- **Sequence Stratigraphy of the Niobrara Formation, Powder River Basin, Wyoming: A Tool for Reservoir Quality Prediction:** R. A. Taylor, A. Perez, J. Fenton, Z. Li, C. Davies, G. Spence, J. Brenizer, A. S. Otteman
- **Parasequence Expression in Epicontinental Organic-Rich Mudstones: Examples From the Middle-Late Devonian of North America:** R. D. Wilson, M. D. Sullivan, R. V. Macauley, R. Kukulski, A. Springer, J. Schieber
- **Tectonic Control on Organic-Rich Mudstone Deposition and Associated Unconformity Development in the Utica, Marcellus and Genesee Shales, Northern Appalachian Basin, USA:** L. B. Smith, R. Wilson



- **Carbonate Concretions in the Middle and Upper Devonian Shales of the Appalachian Basin: Insights Into Origin, Formation, and Their Effects on Drilling Efficiency:** D. R. Blood, G. Lash
- **Integrating Noble Gas Geochemistry to Better Understand Hydrocarbon Stable Isotope Reversals:** C. J. Whyte, T. Darrah*
- **Chemostatistic Allocation of Shale Oil Using Acidic NOS Compounds Determined by Negative-Ion Electrospray Fourier Transform Ion Cyclotron Resonance Mass Spectrometry:** Y. Han, B. Horsfield, N. Mahlstedt, M. Noah, H. L. LaReau, D. J. Curry

Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson I

Co-Chairs: *R. A. Kernen and J. I. Soto*

- **Minibasin Obstruction by Base-Salt Welding on a Salt-Detached Slope: An Example From the Northern Gulf of Mexico:** O.B. Duffy, N. Fernandez, F.J. Peel, M.R. Hudec, T.P. Dooley
- **Lateral Terminations of Salt Walls and Megaflaps: Structure and Kinematics From Analog Models and the Southeast Termination of the Gypsum Valley Diapir, Paradox Basin:** E. Roca, F. Escosa, M. G. Rowan, O. Ferrer, K. A. Giles
- **A Reversal in the Roles of Salt and Sediment in the Northern Gulf of Mexico: The Rare Effect of Allochthonous Salt Advancement and Inflation on Over-Pressured Sediment:** J. C. Fiduk
- **Evolution of Pressure and Stress in Salt-Suture Mudrocks:** M. A. Nikolinakou, M. Heidari, M. R. Hudec, P. B. Flemings
- **Evolution of the Salina del Bravo Region, Mexico: The Bravo Trough, Sigsbee Canopy, and Perdido Fold Belt:** M. R. Hudec, T. P. Dooley, F. Peel
- **Salt Allochthons in the Deep-Water North-Central Gulf of Mexico (Southeast Green Canyon): Their Role in Hydrocarbon Trap Development and Minibasin Emplacement:** V. S. Mount
- **Timing of Late Pre-Salt Faulting and Salt Mobilization in the Santos Basin, Brazil:** H. D. Lebit, J. Tilton, P. Ollagnon, S. Arasanipalai, B. Virlouvet
- **Tectonic Origin of Major Salt Accumulations in the Precaspian Basin:** G. Schoenborn, A. Abulkhassanova, S. F. Hiebert
- **Loading-Driven Subsidence of Minibasins Into Salt:** M. G. Rowan

Theme 1: Deep-Water Process Stratigraphy

Co-Chairs: *D. Hoyal, T. M. Demko, and G. Gaillot*

- **Innovative Monitoring Captures the Passage and Impact of Submarine Canyon Turbidity Currents:** C. K. Paull, P. Talling, R. Gwiazda, K. Maier, S. Simmons, J. Xu, D. W. Caress, M. Wolfson-Schwehr, N. Nieminski, M. McGann
- **Migrating Sediment Waves Formed by Turbidity Currents Along the Indian Northeastern Margin:** R. Ravindranathan, V. Kolla, P. Gupta, M. C. Mathur, N. Sinha, J. Imran
- **Inception, Development, and Demise of Supercritical Bedforms in a Channel-Lobe Transition: Green Canyon, Abyssal Gulf of Mexico:** M. Santra, C. Olariu, D. Mohrig, E. Prokocki
- **Autogenic Controls on Sediment Delivery to Submarine Lobes Revealed by Novel Time-Lapse Seafloor Surveys of a Highly Active Channel-Lobe System:** M. S. Heijnen, M. A. Clare, M. J. Cartigny, P. J. Talling, D. Lintern, C. Stacey, D. R. Parsons, J. E. Hughes Clarke, S. M. Hubbard, J. T. Eggenhuisen
- **Autocyclic Modulation of Allocyclic Signals in Submarine Fans: An Experimental Study:** R. A. Ferguson, I. Kane, J. Eggenhuisen, F. Pohl, M. Tilston, Y. Spychala, R. Brunt
- **Insights From Large-Scale Experiments: A New Depositional Model for Hybrid Beds Within Submarine Lobes:** E. Prokocki, D. Mohrig, J. Buttles, A. S. Ponten
- **Characterizing the Roles of Sediment Concentration and Substrate Composition on the Properties of Basal Sandy Layers in Transitional Flow Deposits:** D. Mohrig, W. Koo, J. Buttles, A. Pontén, D. Sturmer
- **Experimental Co-Deposition of Sand and Flocculated Mud From Moving Muddy Suspensions—Implications for Shale Sedimentology:** Z. Yawar, J. Schieber
- **Recognition and Significance of 'Scour and Fill' Structure in Amalgamated Deep-Water Sandstones:** P. W. D. Haughton, A. J. Pulham

TECHNICAL PROGRAM MONDAY

Theme 2: Linked Systems of the Cretaceous Gulf of Mexico

Co-Chairs: *R. M. Forkner and J. E. Dahl*

- **Impacts of Apto-Albian OAE on the Comanche Shelf, Central Texas:** R. M. Forkner, X. Sun, C. Kerans
- **Ocean Chemistry and Hydrodynamics as Controls of Mud Production on Great Bahama Bank:** S. Purkis, A. Oehlert, P. Swart, T. Dobbelaere, E. Hanert, P. Harris
- **Shelf-to-Basin Architecture and Facies Variability of a Cretaceous Intrashelf Basin in the Northwest Gulf of Mexico:** J. Sitgreaves, C. Kerans
- **Establishing a High Resolution Integrated Stratigraphic Framework for the Berriasian to Early Barremian of the Morocco Atlantic Margin:** O. T. Bryers, L. G. Bulot, J. Jeremiah, M. A. Casson, D. Rehakova, M. Masrour, M. Ettachfini, M. Nahim, T. L. Luber, J. Redfern
- **New Model for Halokinetically Controlled Patch Reef Systems: A Case Study From the Fairway Field, a Major Aptian Reservoir in the East Texas Basin:** K. E. Hattori, R. G. Loucks, C. Kerans
- **Stratigraphic Architecture of Isolated Cretaceous Carbonate Platforms: A Case Study From the El Doctor Platform, Central Mexico:** A. Eljalafi, C. Kerans
- **Fault and Fracture Pattern Controls Hydrocarbon Accumulation: An Integrated Structural, Geomechanical, and Microscopic Study in the Northern Slope of the Tazhong Uplift in Tarim Basin, Northwest China:** F. Ning, J. Yun, Z. Zhang
- **Carbonate Factory Recovery Following Oceanic Anoxic Events: A Closer Look at the Cow Creek Member of the Pearsall Formation in South Texas:** E. Pedersen, C. Kerans, T. E. Larson
- **Sequence Stratigraphy of the Upper Cretaceous Austin Chalk Group in South and Central Texas:** C. M. Griffith, M. C. Pope, A. D. Donovan

Theme 1: Fluvial and Deltaic Depositional Environments: Reservoir Characterization and Prediction From Multiple Scale Analysis

Co-Chairs: *T. Payenberg, B. Vakarelov, and C. Wu*

- **Fluvial Morphometrics From Seismic of the Mungaroo Formation, North West Shelf, Australia:** T. Payenberg, J. N. Fowler, S. C. Lang, A. L. Powell, A. J. Marsh, B. J. Willis, P. Sixsmith, B. Vakarelov
- **Reconstructing Fluvial Meander-Belt Morphodynamics in a UAV Structure-From-Motion Digital Outcrop Model:** P. R. Durkin, P. R. Nesbit, S. M. Hubbard, T. Lyons
- **Is Braided vs. Meandering a Valid Distinction?:** J. M. Holbrook, S. Allen
- **Heterogeneity and Connectivity of Low Sinuosity Single Thread Channel Belts in Distributive Fluvial and Delta Plain Depositional Systems:** S. C. Lang, T. Payenberg, B. Ainsworth, A. S. Madof, H. W. Posamentier
- **Automated Workflows for Reservoir Modeling, Can We Get There?:** J. R. Mullins, B. B. Nyberg, C. H. Eide, A. Comunian, P. Renard, J. Straubhaar, J. A. Howell
- **Scenario Testing: Exploring Uncertainty Through Sketch-Based Modeling:** M. P. Rood, C. Jacquemyn, M. D. Jackson, G. J. Hampson, J. D. Machado Silva, C. Coda Marques, F. de Carvalho, M. Costa Sousa, Z. Zhang, S. Geiger
- **Fluvial Architecture and Reservoir Modeling Along Strike Direction of the Trail Member of the Ericson Sandstone, Mesaverde Group in Wyoming:** A. A. Treviño, S. M. Hudson
- **Drones and Detrital Zircons: A Paleogeographical Reconstruction of a Long Lived Mega-Valley in the Ferron Sandstone, Utah:** D. Kynaston, J. P. Bhattacharya, W. A. Matthews
- **Evaluating Models for Cretaceous Paleodrainage and Sediment Routing Using Detrital Zircon U-Pb Provenance and Geochronology in the Colorado Front Range:** C. Nazworth, M. Blum



Theme 6: Induced Seismicity and Water Management

Co-Chairs: J. Lund Snee and A. S. Phelps

- **The Geology of Active Earthquake Sequences in Texas:** P. Hennings, A. Savvaidis, J. Nicot, P. Eichhubl, C. R. Lemons, K. M. Smye, E. A. Horne, R. D. Dommissie, O. Callahan
- **Using InSAR Surface Deformation Measurements to Study the Potential Link Between Industry Operations and Earthquakes in the Delaware Basin of West Texas:** K. Pepin, H. Zebker, W. Ellsworth
- **Poroelastic Models for Fault Reactivation in Response to Injection and Production: Application to an Earthquake Sequence Near Venus, Johnson County, Texas:** M. Haddad, P. Eichhubl, E. A. Horne, P. H. Hennings, C. R. Lemons
- **Regulatory Utility of Models for Induced Seismicity:** J. Boak
- **Controlling Fluid-Induced Seismicity During a 6.1-km-deep Geothermal Stimulation in Finland:** G. Kwiatek, T. Saarno, T. Ader, F. Bluemle, M. Bohnhoff, M. Chendorain, G. Dresen, P. Heikkinen, I. Kukkonen, P. Leary, M. Leonhardt, P. Malin*, P. Martínez-Garzón, K. Passmore, P. Passmore, S. Valenzuela, C. Wollin
- **Treatment of Gray Water Using Zeolite:** N. Hammad
- **Fractured Bedrock Hydrogeologic Characterization Using Digital Rock Physics:** E. J. Goldfarb, L. Schmidt, K. Ikeda, O. Alamoudi, D. Rempe, N. Tisato
- **Geologic, Geographic, and Temporal Variations in Saltwater Disposal Practices Within the Permian Region, Texas and New Mexico, USA:** C. R. Lemons, G. McDaid, J. Acevedo, C. L. Breton, P. H. Hennings
- **The Importance of Pipelines in Water Management for Onshore Unconventional Development:** M. Dunkel

MONDAY AFTERNOON POSTER SESSIONS

Theme 5: Analytical Techniques for Unconventional Reservoirs

Chair: N. A. Wilke

- **Quantitative Calibration of Hyperspectral Core Imaging Data: A New Method for Producing Continuous, High-Resolution Mineralogical Characterization of Cores From Both Conventional and Unconventional Reservoirs:** J. Greene, T. H. Kosanke, P. Linton
- **Uses of Satellite Image, Magnetic and Gravimetric Analysis for Early Identification of Fault Reactivation Risk – Application to Utica Field, Ohio:** J. Uzio, A. Bertoncello, F. Brigaud, R. Wagner
- **Modeling Stimulated Rock Volumes Using DPDK Approach Coupled With Rock Mechanics:** J. H. Deng, Z. Chen
- **Determining the Mineralogy of Sedimentary Rocks From Bulk Geochemical Analysis and Chemofacies Modeling:** I. McGlynn
- **Controls on Mudrock Pore System Development in the Upper Mississippian Barnett Shale, Fort Worth Basin, Wise County, Texas:** R. M. Reed, R. G. Loucks, H. D. Rowe
- **A Comparison of XRD Mineralogical Variability and Techniques with Proxy Approaches to Defining Mineralogy and Rock Type: Examples From the Wolfcamp-Dean-Spraberry Succession of the Northern Midland Basin:** H. Garza, G. Torrez, T. Moherek, H. Rowe, P. Mainali
- **Chemostratigraphy of the Woodbine and Eagle Ford Groups, Brazos Basin, Texas:** M. J. Meyer, M. C. Pope, A. D. Donovan
- **Sweet-n-Sour: Application of the Wellsite Mass Spectrometer in 3-D Unconventional Resource Development:** D. A. Wavrek, S. Field
- **Characterizing the Development of North American Source Rock Reservoirs From the Ordovician-Jurassic: A Proxy-Based Multivariate Geochemical Approach:** S. R. Ritzer, E. A. Sperling
- **Finding Extra Value in Elemental Concentration Data: A Mudrock Mineral Model for the Duvernay Formation Unconventional Reservoir:** L. J. Knapp, T. Nanjo, T. Hattori, O. Haeri Ardakani, H. Sanei

TECHNICAL PROGRAM MONDAY

Theme 9: New Global Exploration and Play Concepts

Chair: A. Scardina

- **Seismic Stratigraphy and Hydrocarbon Prospectivity in the Northern Sector of the North Falkland Basin, South Atlantic:** D. Jones
- **Failures and Successes Along With the Emergence of Gas-Rich Deep Bozhong Depression in Cenozoic Lacustrine Rift Bohai Bay Basin:** J. Wang, C. Niu, D. Lv, Q. Wang, F. Wang
- **Stratigraphy and Facies of the Hue Shale in Northern Alaska: Evidence for a Viable Continuous Resource Play in an Emerging Basin:** K. J. Whidden, R. O. Lease, J. A. Dumoulin, P. J. Botterell (Jarboe), C. DeVera, W. A. Rouse
- **Portugal Prospective Petroleum Basins, Offshore Edge of Iberia Peninsula:** R. Fainstein, R. Pena dos Reis, B. Duarte, N. Pimentel
- **Fractured Basement – An Emerging Play in Indian Basins:** B. Ray
- **Evaluating the Response of Geothermal Reservoirs in the Cheshire Basin: A Parameter Sensitivity Analysis:** C. S. Brown, N. Cassidy, S. Egan, D. Griffiths
- **Geothermal Reservoir Characterization of the South Swan Hills Reef Complex, Swan Hills, Alberta:** C. Noyahr, J. A. Weissenberger, N. B. Harris, J. C. Banks
- **Plays Prospectivity and Exploration Direction of Pre-Salt Section in South Gabon Basin, West Africa:** Y. Rao, H. Yang
- **Real-Time Mapping, In-Situ Analysis, and Sampling of Hydrocarbons With Underwater Vehicles:** J. Gharib, L. Baksmaty, B. King, D. Lavallee, G. Sharman
- **Arkoma: Uncovering Its STACKed Pay Potential:** D. A. Yee, G. Johnston, S. Ahmed, J. Levesque, J. Wakter

Theme 7: Integration of Geology and Geophysics

Co-Chairs: J. Behura and R. Michelena

- **Study of Seismic Anomalies in the Frequency Spectrum as a Hydrocarbon Reservoir Characterizer:** A. J. Pelayo Nava, I. Omaña
- **Estimation of 3-D Confidence Index for Consistent Integration of Seismic Data Into Reservoir Models:** P. Nivlet
- **Post-Stack Seismic Characterization of Pore Structure Variations for Predicting Permeability Heterogeneity in Deeply-Buried Carbonate Reservoirs, Puguang Gas Field:** J. Guo, Y. Sun
- **Application of Bayesian Stochastic Inversion Based on Frequency Divisions Reconstruction in Reservoir Prediction:** P. Zhang
- **Pre-Messinian Tight Reservoir Characterization – Western Nile Delta, Egypt:** T. Kurniawan, H. Farhana Hasnan, M. Wahab, W.S. Prasetyotomo, C. Brizer, A. Mannini
- **Inversion Case Studies From the SCOOP and STACK Areas in the Anadarko Basin:** S. Chopra, R. K. Sharma, J. Keay
- **Seismic Azimuthal Anisotropy Analysis Applied to Natural Fracture Intensity and Azimuth Prediction: Barnett Shale Example:** J. Zhang, J. Qi, R. M. Slatt, K. J. Marfurt
- **Seismic Reservoir Characterization to Delineate Areas for Early Development, Vaca Muerta Formation, Argentina:** T. Santana, L. Alimonti, J. Marino
- **Integration of Geomechanical Modeling and Seismic Data to Predict Pore Pressure and Stress in Complex Subsurface Settings:** M. Heidari, M. Nikolinakou, P. B. Flemings
- **High Resolution Seismic Sequence Stratigraphy of the NPRA, North Slope, Alaska:** S. Berg



Theme 1: Circum-Gulf of Mexico Clastic Systems

Co-Chairs: *C. Pirmez, C. M. Crescini, and O. C. Mata*

- **Wilcox Chronostratigraphic Framework: Update 2019:** L. Zarra, R. A. Hackworth, A. C. Kahn
- **Realistic Sequence Stratigraphy in the Deep-Water Gulf of Mexico Using High Resolution Borehole Images:** A. Kumar, J. Herrera, E. Ruiz, W. W. Xu, W. Cantwell
- **Evolution of the Paleogene Wilcox Group Yoakum Canyon and Linking Gulf of Mexico Margin Submarine Canyons to Regional Tectonics:** C. Olariu, C. A. Clayton
- **Abrupt Climate Change Superimposed on Long-Term Tectonic Control on Paleogene Gulf of Mexico Depositional Systems:** J. Zhang, J. Xu, J. A. Covault, A. M. Hessler, G. Sharman, W. A. Ambrose, D. Stockli
- **Tertiary Provenance and Infilling Evolution of the Veracruz Basin, Mexico:** R. Torres, M. Martínez-Medrano, U. Hernandez-Romano
- **Modern and Ancient Sediment Waves in the Deep-Water Campeche Basin, Offshore Southern Mexico: Contourites or Turbidites?:** R. R. Winter
- **Miocene Current-Modified Submarine Fans in Mexican Deep-Water Areas:** L. E. Arce Perez, J. W. Snedden
- **Lessons for Modeling and Production—Integrated Reservoir Characterization of a Deep-Water Channel Levee System at Horn Mountain Field, Gulf of Mexico:** A. Barclay, C. Carvajal, S. Morris, M. Mayo, T. G. Arriola, W. Partridge
- **Mesozoic-Cenozoic Detrital Record of the Circum-Gulf of Mexico: Implications for Clastic Reservoir Quality Assessment:** J. I. Guzman, J. D. Clark, A. Fildani, T. Gerber

Theme 1: Paralic and Shallow Marine Systems I: Process Variability and Impact on Reservoir Distribution and Architecture

Co-Chairs: *C. Olariu, J. Zhang, and V. M. Rossi*

- **Development of High-Energy, Tidally Modulated, Barred Shoreface Deposits: Kimmeridgian-Tithonian Sandstones, Weald Basin, Southern United Kingdom, and Northern France:** L. Angus, G. J. Hampson*, F. Palci, A. J. Fraser
- **Time Stratigraphy of River-Dominated Delta Deposits:** B. J. Willis, T. Sun, R. Caldwell
- **Predicting Reservoir Connectivity Within Ancient Coastal Plain Systems During Exploration, Appraisal and Development—Pitfalls and Best Practices:** D. Harazim, P. K. Pedersen, A. Zappi, O. Guevara, E. C. Velarde Figueroa, I. Hernandez Rivera, S. M. Chavez Morales, R. Torres Vargas
- **Facies Variability in Deltaic Systems of Katjiesberg, Tanqua Karoo:** E. J. Reat, C. L. Johnson
- **Coarse, Well-Sorted, and Cross-Bedded Sandbodies Associated With Shelf Transgression, Jurassic Lajas Formation, Neuquén Basin:** E. Jung, R. J. Steel, C. Olariu
- **Predicting Reservoir Quality Distributions in Storm-Dominated Shoreface and Delta Environments of a Highstand Systems Tract, Lower Cretaceous Viking Formation, Crossfield Area, Alberta, Canada:** N. Díaz, J. MacEachern, S. Dashtgard
- **Quantitative Characterization of the Architecture of Shallow-Marine Clastic Parasequences: Applications to Reservoir Studies:** L. Colombero, N. P. Mountney
- **Mixed Tidal-Wave Processes in a Growth-Fault Controlled Outer Shelf Conduit Near the Pliocene Orinoco Shelf-Edge:** S. Chen, R. J. Steel, C. Olariu, J. Zhang, A. Osman
- **Comparative Analysis of Internal Characteristics of Delta Front Deposits of the Loyd Sandstone (Campanian) Near Rangely, Colorado, Panther Tongue of the Star Point Formation, Helper, Utah, and Lower Sego Near Floy Canyon: Controls Versus Reservoir Properties:** P. P. Flaig, S. T. Hasiotis, T. Prather
- **Local-Scale Along-Shelf Variability in Depositional Processes, Sedimentology and Facies Stacking Patterns of a Mudstone-Dominated Shelf Succession, Book Cliffs, Utah:** R. M. Hamlyn, K. Boulesteix, K. G. Taylor, S. S. Flint, R. Jerret

TECHNICAL PROGRAM MONDAY

Theme 1: Paralic and Shallow Marine Systems II: Process Variability and Impact on Reservoir Distribution and Architecture

Co-Chairs: C. Olariu, J. Zhang, and V. M. Rossi

- **Sub-Seismic Scale Architectural Characterization of Incised Valley-Fill Successions in the Upper Carboniferous Strata of the United Kingdom Offshore: Insights From the Spireslack Sandstone, Scotland:** J. N. Bilton, A. Mitten, S. M. Clarke, G. A. Leslie, L. Howell, R. Pettigrew, T. Cain
- **Cryptic Sequence Boundaries in an Ancient Offshore Mudstone-Dominated Succession: The Upper Cretaceous Mancos Shale Formation, South-Central Utah:** Z. Li, J. Schieber
- **Scales of Variability in the Stratigraphic Architecture of Coastal Systems: Examples From the Quaternary of the Southeast US Atlantic Coastal Plain and Inner Shelf:** J. H. Long, T. J. Hanebuth
- **The Continental Shelf as a Sedimentary Conveyor or Filter? The Role of Topset Process Regime in Controlling Sediment Distribution Patterns in Clinotherms:** G. Cosgrove, D. M. Hodgson, M. Poyatos-Moré, N. Mountney, W. McCaffrey
- **Building a Predictive Model for Stratigraphic Transitions and Lateral Facies Changes in the Cretaceous Almond Formation, Wyoming:** J. Phillips, S. M. Hudson, B. W. Greenhalgh
- **Early Miocene High Island Delta System, Offshore Texas and Louisiana:** M. I. Olariu, M. DeAngelo, D. B. Dunlap, R. H. Trevino
- **Lithofacies Features and Organic Geochemistry of Salt Marsh-Shallow-Marine Deposits in the Middle Mandano Formation, a Middle Pleistocene on the Boso Peninsula, Japan:** Y. Shimano, S. Takaoka, M. Ito
- **Deltaic Sedimentation and Stratigraphy of the Late Cretaceous Frontier Formation in the Southeast Bighorn Basin, Wyoming:** S. Mullen, D. Elmore
- **Sedimentological Signatures of Paleogene in Lishui Sag, East China Sea Shelf Basin:** Z. Sun

Theme 3: Source Rock Depositional Environments

Co-Chairs: T. E. Larson, J. Knapp, and M. N. Johnston

- **Geochemistry of a Thermally Immature Eagle Ford Group Drill Core in Central Texas:** K. L. French, J. E. Birdwell, K. J. Whidden
- **Source Rocks of the Paratethys Region (Central Europe to Central Asia): Regional Distribution and Implications for Hydrocarbon Exploration:** R. F. Sachsenhofer, A. Bechtel, R. Gratzner, G. Tari
- **Upper Cretaceous Source Rock Distribution, Richness, Thermal Maturity, and Petroleum Generation History, Sirt Basin, Libya:** K. A. Albriki, F. Wang, L. Meijun, R. El Zarog, E. Ul Haq
- **To Deep-Water Sergipe Basin and Beyond: Q&A From Integrated Geoscience Investigations of Oils From Recent Wells:** W. G. Dickson, C. F. Schiefelbein
- **Source-Rock Evaluation of the Lower Cretaceous Pebble Shale Unit, Northern Alaska:** D. A. van der Kolk, M. T. Whalen, M. Wartes, R. A. Garrard, K. Bird
- **Rapid Characterization of Strata in the Delaware Basin by FTIR Modeling:** J. Grant, C. Xiao, G. Torrez, H. Garza
- **Organofacies Variability as a Function of Provenance and Process—Heterogeneity Within the Mowry Shale, Wyoming:** B. J. Steeves, S. M. Hudson
- **Application of Optical Microscope and SEM to the Organic Matter Identification in the Permian Lucaogou Formation of the Jimsar Sag, Junggar Basin, Northwest China: An Implication for the Depositional Environment:** Y. Su, M. Zha, X. Ding, J. Qu
- **Formation Mechanism of High Quality Lacustrine Source Rocks in the Bozhong Depression:** W. Liu, Z. Wang, L. Ye, X. Wang, S. Liu
- **A Novel Geochemical Concept for Predicting Source Rock Organofacies: Implications for Conventional and Unconventional Resources Initial Assessment:** B. I. Ghassal, R. Littke



Theme 4: Global Perspectives on Extensional Deformation

Co-Chairs: T. E. Hearon and L. Sanchez

- **Integrated Analysis of Seismic Data and Potential Fields in Southeastern Gulf of Mexico With Implications to Pre-Salt Sediments and Crustal Architecture:** I. Filina, L. Hartford
- **Structural and Geodynamic Modeling of the Influence of Granite Bodies During Lithospheric Extension: Application to the Carboniferous Basins of Northern England:** L. P. Howell, S. S. Egan, G. Leslie, S. M. Clarke
- **Crustal Architecture Variability on Passive Margins:** M. Gouiza, P. J. Markwick*, D. A. Paton
- **Reducing Exploratory Risks Using Advanced Basin Modeling in a Complex Structural Setting – A Case Study From Pará-Maranhão Basin – Brazilian Equatorial Margin:** F. Nascimento, A. Thebault, M. Callies, M. Karam, E. D. Mio*
- **New Insights Into Atlantic Opening From the Bay of Biscay:** E. Butler, D. A. Paton*, P. Markwick, N. Hodgson
- **The Role of Tectonic Inheritance in the Tectonic Evolution and Breakup of the Atlantic and Arctic Oceans:** B. Ady, R. Whittaker*
- **Carboniferous Graben Structures, Evaporite Accumulations, and Inversion in the Southeastern Norwegian Barents Sea:** M. Hassaan, J. Faleide, R. Helge Gabrielsen, F. Tsikalas
- **The Control Interaction of Extension and Strike-Slip on the Structure Characteristics in the Liaodong Bay Depression:** W. Li, X. Chen, Z. Wu, D. Zhou, K. Wu, R. Guo
- **Quantitative Subsidence Analysis of the South-East of the Mesopotamian Basin, Southeastern Iraq: Implications for Basin Evolution Since the Middle Jurassic Period:** L. K. Al-Madhachi, S.M. Clarke, S. Egan
- **Structural and Resource Assessment of XX Field, Onshore Niger Delta:** A. Abegunrin

Theme 8: Multi-Disciplinary Integration for Subsurface Efforts in the Age of Big Data

Co-Chairs: V. K. Sun Chee Fore, K. Bayer, and T. D. Demchuk

- **An Integrated Approach to Reserve Addition: Success Case Scenarios From a Niger Delta Asset:** B. Matthew, O. C. Ajayi
- **Integration Adds Value to Deep Water Oil Exploration and Development: A Case Study of North Gulf of Mexico From Seismic and Well Log to Simulation:** W. W. Xu, D. Shsn, A. Kumar, L. Chen, J. Canas, R. Hayden, O. Mullins, B. E. Winkelman, T. Wilkinson, J. Meyer
- **Integrating WAZ and Potential Field Data for Salt Interpretation – A Case Study From Southern Gulf of Mexico:** E. Medina, S. Panepinto, S. Re, L. D. Masnaghetti, S. Ratti, L. De Luca
- **Integrated Case Study From Reservoir Characterization to Improved Well Performance Evaluation in Abnormal HPHT Tight Gas Reservoir:** S. Guo, Y. Gao, B. Gao
- **The Challenges Brought by Oilfield Development Methods to Geological Modeling: Big Data Paradox and Modeling Strategies Based on Horizontal Wells Data:** H. Wensong
- **Quantifying the Impact of Well Spacing on Bakken Production: A Multivariate Study:** P. Ruttly
- **Visualizing the Microbiotic Response With Other Subsurface Data to Further Understand the Opening of the Gulf of Mexico and the Resulting Petroleum System:** R. D. Weber, B. Parker, T. D. Demchuk, J. A. Edmunds
- **Hydrocarbon Charge History and Paleo Oil Reservoir Restoration in Anyue Cambrian Gas Field in Sichuan Basin: Detailed Evidence From Fluid Inclusions and Quantitative Grain Fluorescence:** X. Ma, S. Liu, X. Lu, J. Fan, H. Tian, T. Zhang
- **Data-Driven Analysis of Complex Hydrocarbon Accumulations in Fractured-Vuggy Reservoirs: Making Decision Based on Facts Rather Than Previous Experiences:** F. Tian, X. Luo, H. Yang, S. Li, C. Shen, W. Pan, W. Zhang, S. Yin, R. Pei, Z. Wang

TECHNICAL PROGRAM TUESDAY

TUESDAY MORNING ORAL SESSIONS

SEPM Research Symposium I: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record

Co-Chairs: J. A. Covault, A. Fildani, and K. Gomez

See page 14 for more information on this special session.

- **Carbon Sequestration Through Time and Its Role as an Overlooked Driver of Earth's Long-Term Climate History:** K. D. Bergmann, N. Boekelheide, A. B. Jost, M. Cantine, T. Mackey
- **Tracking Anoxia in Ancient Oceans: Potential and Limitations of Paleoredox Proxies in Carbonate Rocks:** K. V. Lau, D. S. Hardisty, B. C. Gill, T. W. Lyons
- **Understanding Muddy Sedimentary Strata on Continental Margins: Significance, Knowledge Gaps, and One Perspective on What We Need for the Future:** S. J. Bentley
- **Towards a Better Understanding of Architecture and Pore-Space Distribution in Clastic Sediments and Rocks: Studying Sedimentary Systems Using Simple Stratigraphic Forward Models:** Z. Sylvester
- **Improving Subduction Zone Hazards Assessments Using the Coastal Stratigraphic Record:** T. Dura
- **Sedimentology in Fifty Years:** J. B. Thurmond

Theme 5: Permian Basin Unconventionals

Co-Chairs: P. R. Grossi and J. S. Hnat

- **3-D Structural and Kinematic Model of the Delaware Basin and Surrounding Structural Blocks for Application in Understanding Recent Seismicity:** E. A. Horne, P. H. Hennings, C. K. Zahm
- **Seismic Geomorphology of Permian Shelf Margin, Slope, and Basin in the Northern Delaware Basin:** X. Janson, B. J. Price, C. K. Zahm, J. A. Covault, R. D. Dommissé, D. B. Dunlap
- **Paleo Overpressure in the Delaware Basin Determined From DST, Resistivity, and Mud Logs:** M. L. Van Der Loop
- **Quantitative Interpretation Workflow for Unconventional Reservoir Characterization in the Delaware Basin:** Y. Del Moro, V. Anantharamu, A. Mur, L. Vernik, A. Quaglia, E. Carrillo
- **Relating Natural Fractures and Fluid Migration in Permian Basin Horizontal Wells: Ideas for Completion Optimization:** J. Harrington, B. Lary, W. Eymold, C. J. Whyte, J. Moortgat, E. L. Frost, T. Darrah

- **Controls of Lithology Stacking Patterns on Variations in Oil Saturation, Wolfcamp A, Delaware and Midland Basins:** T. Zhang, X. Sun, L. T. Ko, P. C. Hackley
- **Emerging Permian Plays: Revival on the Rim:** B. Davies, D. Koo
- **The Woodford Shale Play in the Permian Basin:** M. Maler, P. Rutty, S. Daneshvar
- **Continuous, Thin-Bedded Sandy Deep-Water Lobe Deposits – A Case Study From the Lower Permian Dean Formation, Midland Basin, West Texas:** L. Liu, S. Hamlin, W. A. Ambrose

Theme 2: Depositional Models for Carbonate and Evaporite Systems

Co-Chairs: F. Whitaker and J. M. Rivers

- **Are Carbonate Barrier Islands Mobile?:** J. M. Rivers, R. W. Dalrymple
- **From Grain to Flume Tank: Analyzing the Hydrodynamic Behavior of Carbonate Sediments:** J. J. Reijmer, A. Slootman, M. de Kruijf, R. de Boer, J. Kranenburg
- **Influence of Inundated Erosional Landscapes in Localizing Coarse-Grained Heterozoan Carbonate Reservoir Facies:** I. P. Thompson, R. H. Goldstein, E. K. Franseen
- **Ooids as Archives of Past Conditions:** P. M. Harris, M. Diaz, G. P. Eberli
- **$^{87}\text{Sr}/^{86}\text{Sr}$ Isotope Ratios as a Tool for Stratigraphic Correlations in Pre-Salt Carbonates, Santos Basin, Offshore Brazil:** M. Obermaier, J. Amthor, A. J. Barnett, E. Manzo, E. W. Adams
- **Integrated Digital Outcrop Modeling of a Large-Scale Carbonate Slope System: The Upper Cretaceous-Paleocene Ionian Basin of Albania:** J. Le Goff, J. Reijmer, A. Slootman, J. Jaballah, E. Dujonquoy
- **The Flooding of a Carbonate Platform: The Eastern Yucatán Platform as a Model for Transgressive Carbonates:** V. P. Wright, N. H. Platt
- **The Role of Variable Paleotopography and Upwelling on Deposition of Late Oligocene and Miocene Heterozoan-Large Benthic Foraminifera-Coral Sequences, Jamaica:** E. E. Core, E. K. Franseen
- **Facies, Sedimentary Characteristics, and Seismic Geometry of a Carbonate Delta Drift (Miocene, Maldives, Indian Ocean):** C. Betzler, T. Lüdmann, J. Reolid



Theme 4: Compressional Environments: Trap to Basin

Co-Chairs: *D. Quinn and J. F. Flinch*

- **Evolution and Plays of the Banda Arc:** P. W. Baillie
- **Character of the Caribbean Crust Revealed: Initial Observations of New and Reprocessed Seismic Data:** K. R. Reuber, J. L. Pindell, A. Goswami, C. Campbell, A. V. Bliss, B. W. Horn
- **Structural Restoration of Cretaceous Inversion Events in the Bjørnøyrenna Fault Complex, Western Barents Shelf:** M. F. Miraj, C. Pascal, J. Faleide, R. Gabrielsen
- **Using Quantitative Characterization of Strike-Slip Restraining Bends to Predict Hydrocarbon Accumulation – A Case Study From Liaodong Bay Segment, Tan-Lu Fault Zone, East China:** Y. Liu, X. Huang, K. Wu
- **Transforming the Transform: Insights Into the Tectonostratigraphic Development of the Ghanaian Transform Margin From Newly Acquired Long-Offset Reflection Seismic Data:** K. G. McDermott, N. Hurst, S. Patruno, P. Bellingham
- **Structural Evolution of La Florida Anticline and Petroleum System in a Foreland Fold Belt, Eastern Cordillera Foothills, Colombia:** Z. Albeshier, J. N. Kellogg, I. Hafiz, E. M. Saeid
- **Structural Characteristics of Ultra-Deeply Buried Structures in the Northern Longmen Shan Fold-Thrust Belt, Sichuan Basin, China:** H. Liang, Q. Ran, X. Guan, X. Chen, G. Di, S. Han
- **Structural Evolution of Kohat Potwar Fold Thrust Belt of Pakistan:** H. Ghani, E. Sobel, G. Zeilinger, J. Glodny, S. Zapata, I. Irum
- **Shear-Enhanced Compaction Folds: A New Class of Folds Interpreted From Observations in the Colombian Basin, Caribbean Sea:** S. J. Wilkins, J. R. Jacobs, D. M. Jones, T. D. Waller

Theme 1: Source to Sink

Co-Chairs: *B. Romans, B. Dixon, and R. J. Steel*

- **The Conversion of Tectonic and Climatic Forcings Into Stratigraphic Signals of Sediment Supply and Provenance:** G. R. Sharman, Z. Sylvester, J. A. Covault

- **From Quantitative 3-D Seismic Stratigraphy to 3-D Sequence Stratigraphy: Insights Into the Vertical and Lateral Variability of Basin-Margin Depositional Systems at Different Stratigraphic Orders:** V. Paumard, J. Bourget, R. Ainsworth, T. Payenberg, A. D. George, S. Lang
- **A Big Fan of Signals? Exploring Autogenic and Allogenic Processes in Lobby3D, a Numerical Stratigraphic Forward Model of Submarine Fan Development:** P. Burgess, I. Masiero, S. Toby, R. Duller
- **Sediment Volume Partitioning Into Deep Water and Its Implications to Continental Margin Building:** J. Zhang, W. Kim, C. Olariu, R. J. Steel
- **Climate and Bedrock Controls on Sediment Supply to the Paleogene Gulf Coast, Texas, USA:** A. M. Hessler, J. Zhang, J. A. Covault, W. A. Ambrose
- **Provenance and Morphology of Extensive Oligocene-Miocene Deep-Water Fan Systems Sourced From Chiapas-Veracruz and Sierra Madre Oriental, Gulf of Mexico:** J. D. Clark, J. A. Ochoa, D. F. Stockli, A. Fildani, T. Gerber, J. A. Covault, J. I. Guzman, J. S. Vinnels, J. Marshall
- **Sediment Routing From Shelf to Basin Floor in the Quaternary Golo System of Eastern Corsica:** M. L. Sweet, G. T. Gaillot
- **The Berbice Valley and Canyon System of Guyana: A Cross-Shelf Incised Feeder of Giant Cretaceous Age Deep-Water Fans:** L. J. Wood, O. Ugwu-Oju, S. Cardona
- **Sediment Storage and Recycling in the Supply of Sand to the Indus Submarine Fan, Arabian Sea:** P. D. Clift, Y. Li, P. Zhou, P. O'Sullivan, D. Stockli

Theme 3: Hydrocarbon Migration and Charge Risk Assessment

Co-Chairs: *D. Herrera, D. B. Palmowski, and J. E. Little*

- **Scaling Petroleum Migration Using Oil Tracers: Models and Experiments to Assess the Oil Migration Timing and Distance:** C. Sandu, I. Al Atwah, K. R. Arouri
- **Suppression of Vitrinite Reflectance by Bitumen Generated From Liptinite During Hydrous Pyrolysis of Artificial Source Rock:** K. E. Peters, P. C. Hackley, J. J. Thomas, A. Pomerantz
- **A Geochemical Appraisal of the Potential Source(s) of Oils in the STACK and SCOOP Plays in the Anadarko Basin, Oklahoma:** P. Philp, C. Symcox

TECHNICAL PROGRAM TUESDAY

- **Petroleum Systems Analysis in the Santos Basin: New Risks in the Extension of the Pre-Salt Play?:** M. Lawson, J. Sitgreaves, J. Stewart, S. E. Gelman, S. P. Becker, P. H. Figueredo, C. A. Johnson, G. D. Karner, A. Muhammad, J. D. Shoffner
- **Estimating Hydrocarbon Column Heights Based on Seal Capacity:** R. E. Swarbrick, R. W. Lahann, S. O'Connor
- **Using Stochastic Charge Modeling Techniques to Understand Oil and Gas Column Uncertainties:** O. Sylta, A. Tommeras, M. Daszinnies, N. Manoharan
- **Integration of Basin Modeling and Geomechanics for Stress and Fracture Prediction – A Case Study From the Lower Magdalena Valley Basin (Colombia):** C. I. Guerra, J. C. Hidalgo, A. Henk
- **Naturally Occurring Underpressure – A Global Perspective:** T. C. Birchall, R. E. Swarbrick, K. Senger
- **Thermal Regime Deep-Water Sergipe and Potiguar Ceara Basins Brazil Related to Fracture Zones, Active Faults, and Volcanic Activity. Observations From Wells and Seismic Data Applied to Petroleum Systems Modeling:** F. Mosca, N. Bruder, H. T. Aasmr, T. J. Godo, C. Moss, B. LeCompte, H. Upshall

Theme 8: Multi-Disciplinary Integration for Subsurface Efforts in the Age of Big Data

Co-Chairs: V. K. Sun Chee Fore, K. Bayer, and T. D. Demchuk

- **Lineage Metadata as a Critical Component of Data Trustworthiness for Subsurface and Analytics Applications:** P. Neri
- **A Multidisciplinary Approach to Unlocking the Key Drivers in the Midland Basin:** D. Law
- **Integration of Geoscience and Engineering Disciplines: An Example From Permian Basin Legacy Oil Fields:** D. M. Duran, D. Smith, D. Nguyen
- **Multidisciplinary Characterization of the PETM Hyperthermal Event in Central Texas: Palynology, Isotope Chemistry, and Sedimentology:** T. D. Demchuk, C. Denison, K. Gardner, M. Stephenson, J. O'Keefe
- **Accurate Age Control in Clastic Deep-Water Depositional Systems From Multidisciplinary Chronostratigraphic Analysis:** E. Szymanski, R. Hackworth, J. Hearon, A. Kahn, L. A. Febo, A. C. Gary
- **Inter-Disciplinary Data Integration for Completions Optimization:** A. Popescu, I. Kuvaev

- **Recovery Factor Geo-Cellular Tool: A Simple Digital Testing Workflow:** O. Dada, S. Bayer, V. Muralidharan, J. Stewart, E. Rosen
- **A Multi-Disciplinary Workflow to Achieve the Largest, Seamless, High-Quality Presalt Image in Santos Basin, Brazil:** S. Arasanipalai, P. Ollagnon, H. D. Lebit, J. Tilton, B. Virlovet
- **Assessment of Geomechanical Impacts on Breccia Pipes in Underground Potash Mining With Brine Injection Operations:** R. Alcalde, B. Nemeth, B. Shrestha, E. Araujo

Theme 6: Sustainability and Carbon

Co-Chairs: V. Nuñez and N. Gupta

- **Midwest Regional Carbon Sequestration Partnership: Findings From the Michigan Basin Phase III Injection Test Monitoring Program:** M. Kelley, L. Cumming*, A. Conner, N. Gupta
- **Opportunities for Offshore CCS in the Gulf of Mexico:** T. A. Meckel, R. H. Trevino, S. D. Hovorka
- **High-Resolution Subsurface Mapping of Depositional Cycles Within the Lower Part of the Huron Member of the Ohio Shale: Detailed Snapshots of Basin Development in Central and Eastern Ohio:** C. Waid
- **Regional Characterization of an Oil-Bearing Reef Complex for Factors Affecting Assessment of Associated CO₂ Storage:** A. Haagsma
- **Evaluation of Offshore Reservoirs for Potential Carbon Sequestration Through an Integrated Basin Analysis—Seismic Stratigraphic Approach: Example-Mid Atlantic USA:** J. D. Pigott, R. Zhai, K. Pigott, M. Rossi, C. Schlosser, A. Parent, N. Ripepi
- **Geologic Framework of an Anthropogenic Carbon Capture and Sequestration System at the Kemper County Energy Facility, East-Central Mississippi:** C. L. Wethington
- **What Have We Learned After 20 Years of Carbon Capture and Storage Research in the Illinois Basin?:** H. E. Leetaru, C. Korose
- **Time-Dependent Supercritical-CO₂ Relative Permeability and Its Impact on Large-scale CO₂ Storage in Carbonate Reservoirs:** H. Wang, V. Alvarado, J. Kaszuba, Z. Jiao, J. F. McLaughlin
- **Opportunities in the Energy Transition: Unlocking the Business Value of Carbon Capture and Storage** A. N. Ross (Hildebrand)



TUESDAY MORNING POSTER SESSIONS

Theme 2: Carbonates: Fractures and Karst

Co-Chairs: A. Nolting and J. Harms

- **Timing and Mechanism of Calcites in Fractures of Middle Ordovician of Northern Tarim Basin, North West China:** Z. Qiao, S. Zhang, A. Shen, A. Hu, J. Zhao
- **Control of the Formation Mechanism on the Reservoir Quality for the Fracture-Cave Carbonate Rocks: A Case Study on the Ordovician Carbonate Reservoirs in the Halahatang Oilfield, Tarim Basin, North West China:** C. Ning
- **Multiphysics Numerical Modeling of a Naturally Fractured Carbonate Reservoir Analog:** I. Gomes, T. Miranda, R. Santos, J. P. Silva, J. A. Barbosa, A. I. Paz, J. P. Fernandes, R. da Silveira, P. R. Bernardes
- **Modeling the Structure, Porosity, and Permeability of the Arbuckle Group in South-Central Kansas:** A. Hollenbach, T. S. Bidgoli, E. Ansari
- **Karst Heterogeneities: Static Modeling and Impact on Field Flow Behavior:** P. Henriquel, J. Franco, M. Lepphaille
- **Oomolds in a Marine Realm? A Case Study From the Permian Basin's Happy Spraberry Field:** A. Albader, J. Laya, B. Miller, S. E. Kaczmarek
- **Integrating Cores, CT, NMR, HPMT Data, and Well Logs to Characterize the Pore Structure of Carbonates – A Case Study From the Mishrif Formation in Southeast Iraq:** H. Liu, B. Liu, Z. Tian, R. Guo
- **Dolostone-Limestone Transitions in the Hydrothermal Dolomitization System: Origin, Controls, and Evolution:** A. I. Koeshidayatullah, C. E. Hollis, J. Stacey, H. J. Corlett, A. Boyce, N. Al-Sinawi, J. Redfern
- **Geometric Quantification of Dolomitized Clinoforms Using Digital Outcrop Models and Surface-Based Modeling: Insights for Geobody Connectivity From Outcrop Analogs:** C. Teoh, C. Jacquemyn, J. Laya, F. J. Hasiuk, S. E. Kaczmarek, F. F. Whitaker
- **Integrated Seismic-Log-Core-Test Fracture Characterization and Modeling, Barra Velha Formation, Pre-Salt of Santos Basin:** R. S. Correa, C. E. Pereira, F. A. Cruz, S. N. Lisboa, M. P. Junior, V. H. Souza, C. H. Rocha, F. G. Araujo

Theme 2: Carbonates: Depositional Models I

Co-Chairs: M. C. Pope and A. Godet

- **Late Ordovician-Early Silurian Sequence Framework and C-Isotope Stratigraphy of the Williston Basin:** A. Husinec
- **Pleistocene to Holocene Transgressive System (TST) of the Western Arabian Gulf, Saudi Arabia:** L. A. Gonzalez
- **Paleokarst Reservoirs in the Lower Carboniferous (Mississippian) Madison Group and the Jura-Cretaceous Success Formation of West-Central Saskatchewan:** D. J. Kohlruss
- **Sediment Drift Types in Carbonate Platform Settings:** T. Luedmann, M. Paulat, C. Betzler
- **Tectonic and Climate Control on the Seismic Architecture of Palaeocene-Eocene Isolated Carbonate Banks of the Offshore Indus Basin, Pakistan:** K. Shahzad, C. Betzler
- **Depositional Modeling Carbonate Strand Plain Development Using High-Resolution GPR and C-14 Dating:** K. Markert, J. McBride, S. M. Ritter
- **Geology of West Karun Oil Fields Shared Between Iran and Iraq:** Y. Shahin
- **Analytical Solutions for Growth of Linear Carbonate Platforms:** N. Goudemand, P. Singh*, J. L. Payne
- **Depositional and Facies Models in Evaporitic Sediments: A Case Study of the Prairie Evaporite and Lotsberg Formations in South-Central Alberta:** E. Lord, N. Harris
- **Subsurface Facies and Non-Matrix Features Characterization of Sandy Point, San Salvador Island, Bahamas: Impact on Porosity, Permeability, and Fluid Flow:** A. Nolting, S. L. LeBlanc, S. M. Fullmer, P. J. Moore, F. Fernandez-Ibanez, T. Buono, J. Gulley, E. Bunge, H. Al-Qassab, C. Kerans

Theme 3: Biomarker Applications in Petroleum Systems Analysis

Co-Chairs: A. Bennett, J. A. Curiale, and L. Heister

- **Aliphatic and Aromatic Biomarkers of the New Albany Shale, Illinois Basin:** C. W. Brazell, S. C. Brassell, A. Schimmelmman, M. Mastalerz
- **Origin Analysis on Anomalies in Enriched 25-Norhopanes in Crude Oil From the Karamay Formation of Santai Oilfield in Junggar Basin, Northwest China:** M. Hou, M. Zha, X. Ding

TECHNICAL PROGRAM TUESDAY

- **Integration of Fluid and Rock Geochemical Parameters to Constrain Thermal Maturity Indicators in Paleozoic Organic-Rich Source Intervals:** D. C. Willette
- **A Data-Driven Method for Processing and Analysis of Gas Chromatography-Mass Spectrometry (GC-MS) Signals in Differentiation of Oil Samples:** L. Lu, A. N. Bishop, Y. Tang, R. Bisquera
- **Pay Allocation and Reservoir Depletion Analysis Through Geochemical Technologies:** M. N. Slack, D. A. Wavrek
- **Noble Gas and Hydrocarbon Geochemistry of Fluids Dissociated From Gas Hydrate Cores From Gulf of Mexico Green Canyon, Block GC955:** M. Moore, S. C. Phillips, T. Darrah*
- **Microbial and Thermogenic Petroleum Systems in the Colombian Offshore Caribbean – New Geochemical Insights in an Emerging Basin:** F. Gonzalez-Penagos, A. V. Milkov, E. R. Lopez, L. M. Duarte
- **Evidence for Several Charges of Migrated Gas in Austin Chalk, Eagle Ford, and Buda Reservoirs on the San Marcos Arch:** A. S. Kornacki, K. S. Weissenburger
- **Geochemical Fingerprinting Applications in Petroleum System Assessment:** F. S. Al Najjar, B. I. Ghassal
- **Molecular Fractionation of Organic Matter at Microscales Within Ordovician Kukersites Revealed by Nano-Infrared Spectroscopy:** A. M. Jubb, P. C. Hackley, J. J. Hatcherian, J. Qu, T. O. Nesheim

Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson II

Co-Chairs: C. Rodriguez and G. Schoenborn

- **Louann Salt Evolution in the Northeastern Gulf of Mexico From Middle Jurassic to Present:** A. Mattson, R. M. Gani, N. D. Gani
- **Sedimentology and Stratigraphy of the Cretaceous Evaporites of the West African Margin, Insight From the Proximal Domain of the South Gabon, Congo, and Cabinda Area:** A. Pichat, V. Delhaye-Prat, A. Pedley, L. Gindre-Chanu
- **Loading a Complex SaH Isopach: Progradation Across a Salt-Filled Rift System** T. P. Dooley, M. R. Hudec, O. Duffy,
- **Implications of Variations in Salt Geometry for Exploration in the Brazil Salt Basins:** E. Carlock, J. Stewart, J. R. Sitgreaves
- **A Conceptual Model of Deformation Near Tertiary Salt Welds:** M. P. Fischer, N. J. Williams, Z. Li, D. P. Canova

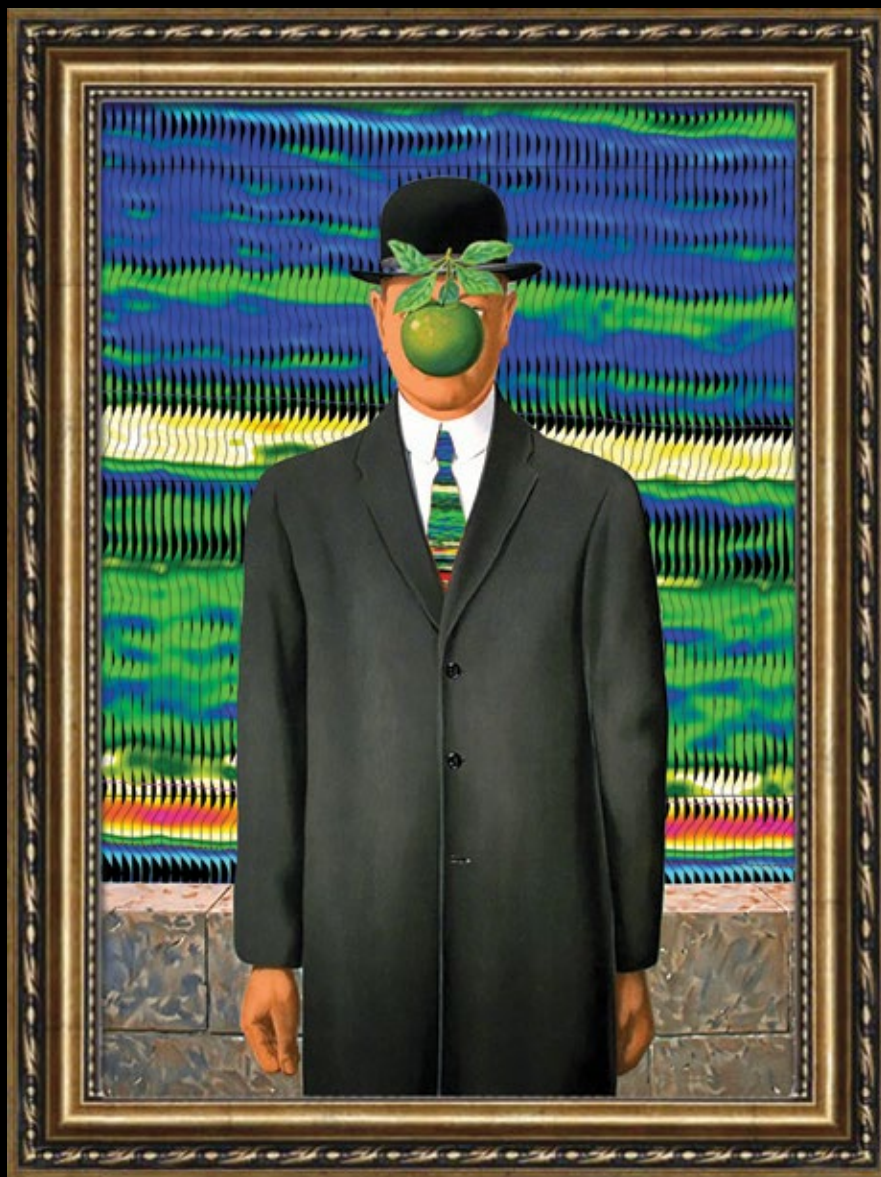
- **Structural Analysis of Disrupted Carbonate Caprock Underlying a Salt Shoulder, Gypsum Valley Salt Wall, Paradox Basin, Colorado:** H. K. Draper, K. A. Giles
- **Differential Translation of Supra-Canopy Minibasin Domains in the Northern Gulf of Mexico Slope:** N. Fernandez, O. Duffy, F. J. Peel, M. R. Hudec
- **Seismic Characterization of Salt Stratifications: A Santos Basin Overview:** P. Barros, A. Maul, J. Fonseca, L. Teixeira, T. Yamamoto, F. Borges, M. González
- **Coupling Between Sedimentation and Deformation: How Emergence of Mini-Basins Connects to Turbidity-Current Sedimentation:** X. Liu, D. Mohrig, J. Buttles
- **Lean Salt Architecture in the Northern Gulf of Mexico:** W. J. Beck, S. Tierrablanca, T. Buckley, H. D. Lebit

Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson III

Co-Chairs: N. Fernandez and R. Goteti

- **Multiple Stages of Syndepositional Halokinetic (?) Deformation in the Permian Cutler Formation, Northern Margin of the Onion Creek Diapir, Paradox Basin, Utah:** D. F. Lankford-Bravo, K. A. Giles, R. Langford
- **Origin of Supra-Salt Synclines in the "Post Diapiric" Jurassic Morrison Formation, Big Gypsum Valley, Colorado:** A. Soltero, R. Langford, K. A. Giles
- **The Salt Layer as Important Key to the Pernambuco Plateau Petroleum System, Northeast Brazil:** O. J. Filho, B. Buarque, J. A. Barbosa, G. Ramos, J. Oliveira, J. Magalhães, H. Da Silva, M. L. Alencar, A. Araújo, A. Celestino
- **The 3-D Geometry and Distribution of Sub-Seismic Scale Halokinetic Unconformities: Implications for Salt Minibasin Evolution and Associated Reservoir Architecture:** J. Cebers-Korkmaz, S. M. Clarke, S. Jones, T. Randles, R. Pettigrew, T. Dodd
- **Miocene Evaporites of the Carpathian Foredeep Basin and Their Role in Formation of Gas-Bearing Contractural Structures – 250 Years of Geological and Geophysical Studies:** P. Krzywiec, M. G. Rowan, K. Bukowski, N. Oszczypko, J. Przybyło
- **Spatial and Temporal Variation of Fault Activity in the Terrebonne Salt Withdrawal Basin, Southeastern Louisiana: Response to Salt Evacuation and Sediment Loading:** A. O. Akintomide, N. H. Dawers

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TECHNICAL PROGRAM TUESDAY

- **Evidence for Extensional Rollover Subbasins and Salt Withdrawal Minibasins Adjacent to the Aulet and Adons Diapirs, Spanish Pyrenees:** C. Gannaway Dalton, K. A. Giles, J. A. Muñoz, M. G. Rowan
- **Quantifying Deformation of the Permian Halokinetic Cutler Group, Paradox Basin, Utah Using Rock Magnetic Methods: Implications for Salt Tectonics and Salt-Related Petroleum Systems:** J. Stine, J. Geissman, D. Sweet, J. F. Ferguson
- **Origin, Characteristics, and Distribution of Non-Halite Clasts Within Patawarta Diapir, Flinders Ranges, South Australia:** R. A. Kernen, K. A. Giles, M. G. Rowan
- **Syn depositional Folds Developed in Salt Wall Roof Strata, Paradox Basin, Utah and Colorado:** R. Langford, K. A. Giles*, D. F. Lankford-Bravo, R. Ronson, A. Soltero, C. H. Bailey, R. A. Delfin, J. McFarland, E. Heness

Theme 1: Deep-Water Sedimentology

Co-Chairs: *T. Heard and I. Kane*

- **Sedimentologic and Stratigraphic Evidence for Flow Transformations as Turbidity Currents Encounter Intraslope Minibasins: Implications for Up-Dip Stratigraphic Traps From an Outcrop Analog:** R. G. Englert, S. M. Hubbard, B. Romans, S. Kaempfe, L. E. Stright
- **Quantifying the Relationship Between Structural Deformation and the Morphology of Submarine Channels From Shelf-Edge to Deep Water: Case Studies From the Niger Delta System:** W. H. Mitchell, A. Whittaker, L. Loneragan, M. J. Mayall
- **Depositional Architecture of a Slope Fan Fed by Multiple Channel Systems:** R. S. Healy, L. A. Hansen, D. M. Hodgson, A. S. Ponten, R. J. Wild, I. A. Kane, S. S. Flint
- **Attribute Analysis and Morphologic Evaluation of an Incised Valley System in the Santos Basin, Brazil:** J. Tilton, H. D. Lebit, H. Bedle
- **Late Pleistocene Rio Grande and Bryant Fans: Two Unique Deep-Sea Fan Types in the Northern Gulf of Mexico and Their Implications for Petroleum Systems:** J. E. Damuth, H. Olson, C. Nelson
- **Downslope Variability in Deep-Water Slope Channel Fill and Stacking Patterns: Insights From Outcrop and Shallow Seismic Analogs:** B. G. Daniels, S. M. Hubbard, L. Stright, B. W. Romans

- **Deep-Marine Mudrock Chemostratigraphy in the Windermere Turbidite System, Cariboo Mountains, Canada: Implications on Provenance and Sequence Stratigraphy:** L. Navarro, M. Gabriela, S. Ludzki, B. Arnott
- **How Do Submarine Canyon-Channel Systems (re)Shape Continental Margins?:** L. A. Pettinga, L. Shumaker, Z. R. Jobe
- **Geometric Modeling of a Turbidite System: Roadmap to Pore Pressure Distribution:** A. J. Welker, A. Eckert, J. Obrist
- **Architecture of Channel Levee Build Up in Unidirectional Migrating Turbidite Channel Complexes in Plio-Pleistocene Channel Levee System of Indus Offshore Basin, Pakistan:** E. Ul Haq

Theme 1: Deep-Water Systems: Currents and Resulting Fine(r)-grained Deposits

Co-Chairs: *E. Arce-Perez and J. F. Bijkerk*

- **Morphology, Seismic Characteristics, and Origin of Widespread Sediment Waves in a Submarine Canyon System on the Northern South China Sea Margin:** F. Lyu, W. Li, J. Li, L. Li, J. Wu
- **Origin-Based Classification Scheme for Fine-Grained Sediments: A Case Study From the Eocene Green River Formation in Uinta Basin:** C. Zhou, Z. Zhijie, J. Zhang, R. J. Steel, C. Olariu, X. Yuan, D. Cheng
- **New Insights Into the Permeability Barriers Between Submarine Channels and Their Levees, Eocene Brito Formation, Sandino Basin, Nicaragua:** S. P. Cossey
- **Regional Depositional Setting of the West Orphan Basin; The Importance of Contour Current Processes on Stratigraphic Trap Generation in a Hybrid Depositional System:** S. M. Donnelly, R. T. Beaubouef, R. O. Bracht, R. J. Fitzsimmons
- **Origin and Significance of Thin-Bedded Packets Interleaved in Sandy Deep-Sea Fan Successions:** E. A. Morris, P. D. Houghton, P. M. Shannon, C. Pierce, A. J. Pulham, O. J. Martinsen, S. P. Barker
- **Lateral Heterogeneity of Distal Submarine Lobe Deposits, Point Loma Formation, California: Implications for Lateral Facies Prediction in Horizontal Wells:** K. B. Kus, Z. R. Jobe, F. J. Laugier, M. D. Sullivan
- **Sedimentary Model of Fine-Grained Sediments: A Case Study From the Holocene Qinghai Lake:** Z. Zhang, C. Zhou, X. Yuan, W. Kim, P. Li, H. Zhou



- **Spatial and Temporal Evolution of Matrix-Poor to Matrix-Rich Sandstones in the Ordovician Cloridorme Formation, Quebec, Canada: A Detailed Reassessment of Greywackes After Half a Century:** J. Ningthoujam, R. Arnott
- **The Deep-Water Channels Migration and Evolution Under the Inference of Bottom Current in Offshore Mozambique, East Africa:** X. Xu, D. Shao, G. Zuo, Y. Lu, H. Sun, Q. Cao
- **An Integrated Study on the Spatial Distribution and Formation of Contourites:** D. Beelen, L. J. Wood

Theme 6: Induced Seismicity and Water Management

Chair: T. S. Bidgoli

- **Geostatistical Analysis of Injection Activity and Seismic Events in the Dallas-Fort Worth Region:** Y. Xiao, M. J. Pyrcz, C. R. Lemons, P. H. Hennings
- **Characteristics of Potentially Seismogenic Faults in the Greater Fort Worth Basin:** E. A. Horne, P. H. Hennings, J. Osmond
- **Quantifying Fault Stability in the Fort Worth Basin, Texas:** A. Morris, P. H. Hennings, H. DeShon, A. Price
- **Basin-Scale Hydrogeological Modeling of the Fort Worth Basin Ellenburger Group for Pore Pressure Characterization:** J. Nicot, R. S. Gao, P. H. Hennings, R. D. Domisse
- **Impact of Varied Approaches for Fault Slip Potential Analysis in the Fort Worth Basin, Texas:** P. Hennings, J. Lund Snee, J. Nicot, E. A. Horne, M. D. Zoback
- **Development of a Three-Dimensional Vertical Stress Model for the Greater Permian Basin Region:** K. M. Smye, E. A. Horne, P. H. Hennings
- **Seismicity Induced by Hydraulic Fracturing in the Central and Eastern United States:** M. R. Brudzinski, B. S. Currie, R. J. Skoumal, S. Fasola, R. Ries, T. Langenkamp, P. Friberg
- **Geochemical Sourcing of Produced Waters From Soil Dumps and Spills: A Case Study From the Permian Basin:** M. Engle, D. Akob, D. Kent, T. Gregston, I. Cozzarelli, J. Jaeschke, A. Jubb, W. Orem, M. Marvin-DiPasquale
- **Key Technologies for Green Development of the Fuling Shale Gas Field:** Y. Zang, Y. Liu, Z. Wang
- **Upgraded Lighting Practices in the Oil and Gas Industry Help to Protect the Night Skies at McDonald Observatory and Improve Visibility in the Field:** W. Wren

Theme 5: Unconventional Reservoir Technology

Chair: B. R. Davis

- **Integrated Monitoring of Steam Chamber Development Using Time-Lapse PP-PS Joint Inversion: A Case Study of Oil Sands Reservoir, Canada:** W. Bo, Q. Nie, L. Hong, C. Wang, X. Zhang
- **Reservoir Quality and Fractures System Assessment of Meramec and Osage Limestone by Using Advanced Log Analysis Method:** X. An, L. Wu
- **Identification of Triggers for Organic Matter Burial of the Middle and Upper Devonian Horn River Shale, Northeastern British Columbia, Canada:** H. Zhou, N. B. Harris
- **Integration of XRF and Shades of Grey Profiles for In-Depth Characterization of Shale Properties:** A. Cheema, J. D. Chatellier*, J. Afzal
- **Estimating Lithologic Facies in Argillaceous and Carbonate-Rich Mudrocks Using X-Ray Fluorescence Measurements and Multivariate Statistics:** T. E. Larson, E. Sivil, K. Hattori, R. G. Loucks, S. C. Ruppel
- **Moisture Equilibration and Permeability of Crushed Shale Samples:** M. Achang
- **Geology of the Turner Sandstone, Finn-Shurley Field, Powder River Basin Wyoming:** S. A. Sonnenberg
- **A New LWD Imaging Tool for Use in Oil-Based Muds:** M. Gillen, S. Dymmok, B. Moody
- **Optimizing Portable ED-XRF Calibration Routine for Sandstones and Carbonate Reservoirs: Examples From the Delaware Basin and Central Basin Platform:** A. Morrell, H. Rowe, M. C. Dix
- **A Comparison of Kerogen Maturity Analysis in Shales Using Laser Raman Spectroscopy, Vitrinite Reflectance and Rock-Eval Pyrolysis:** D. G. Henry, I. Jarvis, G. Gillmore, M. Stephenson, C. Vane



TECHNICAL PROGRAM TUESDAY

Theme 8: New Applications of Machine Learning to Subsurface Science

Co-Chairs: C. Xu, C. Pellan, and S. Bhattacharya

- **Managing Data Traceability in the Data Lifecycle for Deep Learning Applied to Seismic Data:** R. Souza, E. Vital Brazil*, L. Azevedo, R. Ferreira, D. Salles Chevitaresh, E. Soares, R. Thiago, M. Nery, V. Torres, R. Cerqueira
- **Semantic Segmentation Pipeline for Seismic Data:** D. Salles Chevitaresh, D. Szwarcman, E. Vital Brazil
- **Mineralogical Estimation of Organic Rich Mudrocks From Well Logs Using Neural Networks: Overcoming Training Dataset Size Limitation by Integrating X-ray Fluorescence Elemental Data:** M. A. Al Ibrahim, T. Mukerji, A. Hosford Scheirer
- **Machine Learning Multi-Attribute Analysis for Gas Hydrate Identification:** H. Bedle, J. Chenin
- **Advanced Quantitative Stratigraphic Data Integration of Conventional and Unconventional Plays:** X. Liu, Y. Xiong, T. Vodo, A. Smith, M. Lorente
- **An Application of Dynamic Time Warping in Rapid Depth Shifting to Improve the Quality of Machine Learning Training Datasets:** M. W. Bauer
- **A Bi-Directional Long Short-Term Memory Neural Network for Geologic-Facies Classification:** J. Jiang, S. C. James, S. C. Atchley
- **Study on Flow Unit of Turbidite Fan Low Permeability Reservoir Based on Self-Organizing Neural Network Algorithm:** Y. Lu, K. Liu, Y. Wang
- **Reservoir Modeling With Deep Learning:** G. H. Graham, Y. Chen
- **Applied Insight From Machine Learning Applications Using Analog Data:** J. L. Faroppa

TUESDAY AFTERNOON ORAL SESSIONS

SEPM Research Symposium II: A Look Into the Future of Energy and Sustainability Using the Sedimentary Record PICO Session

Co-Chairs: A. Fildani, K. Gomez, and J. Covault

See page 14 for more information on this special session.

- **Understanding Ice-Sheet Vulnerability Using an Integrated Subsurface Sedimentary Geoscience Approach: Preliminary Results From Neogene and Quaternary Records Acquired During IODP Expedition 374 to the Ross Sea, Antarctica:** B. W. Romans, L. De Santis, R. M. McKay, D. K. Kulhanek, E. Scientists
- **Submarine Fans, the Carbon Cycle, and Climate Models:** A. M. Hessler
- **Opportunities for Incorporating Deep-Time Insight About Landscape Dynamics into Engineering and Decision-Making Models:** E. A. Hajek, V. Ganti, E. Greenberg
- **Using Earth's Sedimentary Record to Inform Studies of Delta Channel Deposits on Mars:** T. A. Goudge, D. Mohrig, B. T. Cardenas, C. M. Hughes, C. I. Fassett
- **Conservation Paleobiology— Using Ancient Examples of Marine Extinctions to Understand and Mitigate Future Ecosystem Collapse:** R. C. Martindale, W. Foster, A. M. Weiss
- **Exploiting Autogenic Sedimentary Processes to Synchronize Geologic and Modern Timescales of Environmental Change:** B. Z. Foreman, K. M. Straub
- **Predictions for the Width of River Channel Belts From Physical Experiments and the Rock Record:** A. B. Limaye, C. Paola
- **Integrating Observations From Recent Seafloor Surveys With the Deep-Water Stratigraphic Record: Implications for Securing Energy Resources, Geohazard Assessments, and Other Potential Applications:** S. M. Hubbard, R. Englert, M. Cartigny, M. Clare, J. Eggenhuisen, Z. R. Jobe, S. Hage, M. Heijnen, D. Vendettuoli
- **Building a Geothermal Future on a Sedimentary Foundation:** J. M. Holbrook
- **Hydrologic Variability and Fluvial Responses to Increased Warming During the Paleocene Eocene Thermal Maximum, Piceance Creek Basin, Colorado, USA:** A. K. Lesko, B. Foreman



Theme 5: Advances in Unconventional Reservoir Characterization II: From Kerogen to Producing Petroleum

Co-Chairs: *W. K. Camp and K. L. Canter*

- **New Techniques and Applications of Organic Petrography and Spectroscopy: Insights for Shale Petroleum Systems:**
P. C. Hackley, A. Jubb, B. Valentine, J. J. Hatcherian, R. McAleer
- **Detailed Characterization of Hydrocarbons in Source Rocks and Mud Rock Reservoirs by Thermal Extraction-Evolved Product GC-MS and GC-MS/MS Analysis:** T. B. Malloy, K. Bissada, M. Mei, L. M. Darnell, J. C. Wright
- **Delaware Basin GOR and Production Forecasting:** M. Bhatia, J. Lee, T. Blasingame, H. Nasrabadi, B. Hascakir, D. McVay
- **Dual Pore-Connectivity and Wettability and Fluid-Accessible Pathways of Shale:** Q. Hu
- **Solid Bitumen in Shales: Facies and Maturity Effects on Microstructures:** D. Misch, D. Gross, B. Horsfield, J. Klaver, R. F. Sachsenhofer, S. Joyce, J. L. Urai
- **Implications of Solid Bitumen in Source-Rock Reservoirs:** M. Mastalerz, A. Drobnik
- **Pore Characteristics in Refractory Kerogen vs. Solid Bitumen and Pore Systems in the Dry-Gas Window Marcellus Formation, Appalachian Basin, Northeastern Pennsylvania:** L. Ko, P. C. Hackley, R. G. Loucks, T. Zhang, C. Wu
- **Tracer-Guided Characterization of Dominant Pore Networks and Implications for Permeability and Wettability in Shale:** S. Peng, R. M. Reed, X. Xiao
- **Pyrolysis-Based Model Prediction of API Gravity in the Producing Fluid Saturations of Organic-Rich Unconventional Reservoirs:** A. S. Pepper

Theme 2: Microbial Carbonates: Modern and Ancient Analogs for Pre-salt Deposits

Co-Chairs: *K. D. Bergmann and J. Sitgreaves*

- **Unusual Carbonate Facies and Precipitates: Is the Precambrian the Key to the Cretaceous Pre-Salt Carbonates? – Part 1:**
J. Amthor, K. Bergmann, R. Camara, K. Juk, Shell Brazil
- **Styles of Pre-Salt Carbonate Platforms, Brazil Santos Basin:** T. Simo, J. Sitgreaves, E. Smith, U. Bayram, J. Stewart

- **Lacustrine Carbonate Platform Development – A Multi-Scale Approach to Build Predictive Models:** J. Sitgreaves, T. Simo, M. Lawson, J. Stewart, U. Bayram, C. López
- **Rapid Modeling of Microbial Carbonates Using a Sketch Based Tool:** C. Jacquemyn, M. D. Jackson, D. W. Hunt, D. Hulme, G. McQueen, I. Shepherd
- **Geochemistry of Unusual Carbonate Facies: Is the Precambrian the Key to the Cretaceous Pre-Salt Carbonates? Part 2:** K. D. Bergmann, J. Amthor, M. Cantine, A. B. Jost
- **Fitting the Facies Mosaic Together: Controls on Lateral Heterogeneity of Microbial Reefs:** M. D. Cantine, A. Cummings, K. D. Bergmann
- **The Influence of Faults on the Deposition of Large Lacustrine Carbonate Mounds in the Green River Formation of Utah and Wyoming: Implications for Understanding Spatial Distribution and Reservoir Quality:** E. A. Jagniecki, J. J. Scott, J. Janick, M. D. Vanden Berg
- **Reservoir Insight From World-Class Microbialite Outcrops – Cambrian of Central Texas:** A. W. Droxler, P. M. Harris, P. Khanna, H. H. Hopson, D. Lehrmann
- **Lessons From Hamelin Pool and the Maldives for the Coquina Reservoirs in Libra, Santos Basin:** G. P. Eberli, E. Suosaari, E. Karaca, M. Diaz, C. Betzler, T. Lüdman

Theme 4: Special Session on Salt Tectonics in Memory of Martin Jackson II

Co-Chairs: *Z. Cumberpatch and M. G. Rowan*

- **Recognition of Passive Salt Diapirism in the Rock Record:** K. A. Giles, M. G. Rowan
- **New Frontiers in Salt Research:** P. A. Kukla, J. L. Urai, F. Strozzyk
- **Minibasin Stratigraphy and Related Trapping Styles in Salina del Istmo Basin, Gulf of Mexico, Mexico: New Insights From 3-D Seismic Stratigraphy and Geomorphology Interpretation:** C. Rodriguez, J. Hernandez, R. A. Ysaccis, S. Villarreal, K. Lyons, F. Snyder, M. Mikhaltrev, Centanni, E. Galvan, M. El-Toukhy, S. A.
- **Strontium Isotope Dating of Evaporites and the Breakup of the Gulf of Mexico and Proto-Caribbean Seaway:** J. L. Pindell, B. Weber, W-H Elrich, S. P. Cossey, M. R. Bitter, R. S. Molina, R. H. Graham, R. N. Erlich

TECHNICAL PROGRAM TUESDAY

- **Polyphase Deformation of Salt Diapirs in the Shallow Water Campeche Basin of Mexico:** T. Heyn, A. S. Afifi, R. Zhang, R. R. Winter, A. R. Hospedales
- **Computational Forward Modeling of Salt Tectonics in Varied Tectonic Settings: Computational Challenges, Applications, and Future Directions:** D. Roberts, F. Paw
- **Using Seismic and Physical Modeling to Characterize the Origin and Deformation of Sediment Clasts Within Patawarta Diapir, Flinders Ranges, South Australia:** R. A. Kernen, T. P. Dooley, K. A. Giles, M. G. Rowan, F. J. Peel, M. R. Hudec
- **Supra-Salt Carapaces in the Western Betic Cordillera, Spain: Characterizing an Outcropping Example of a Key Element in Salt Tectonics:** J. F. Flinch, J. Soto
- **The Louann Salt of the Gulf of Mexico: How Long Does it Take to Deposit a Giant Salt Deposit?:** F. J. Peel

Theme 10: Opportunity Valuation

Co-Chairs: *E. G. Hathon and D. C. Zweidler*

- **Opportunity Valuation and Investment Decisions – A Tale of Narratives and Numbers:** D. C. Zweidler
- **Conventional Exploration: Smaller, Stronger, and Back in the Black:** J. Wilson
- **The Role of Serendipity, Randomness, and Luck in Petroleum Exploration:** A. V. Milkov, W. C. Navidi
- **Holistic Approach to Business Development – An Integrated Team and Approach to Create Results:** D. M. Hartz
- **Risky Business: The Importance of Proper Risk Characterization in Making Investment Decisions Across the Value Chain:** U. C. Edwards
- **Role of the Geologist in Oil and Gas Acquisitions and Divestitures:** J. S. Hamilton
- **Production Forecasting: Improved Understanding of Why Sparse Data, Static and Dynamic Reservoir Modeling Limitations, and Human Bias Lead to Optimistic Recovery Forecasts:** W. S. Meddaugh
- **Utilizing Multivariate Statistical Modeling to Incorporate Geologic, Operational, and Economic Variables to Develop a Graded Acreage Model in the Eagleford:** S. Mathukutty
- **Leveraging Data and Building Analytics-Driven Valuations:** J. Lepore

Theme 3: Integrated Workflows in Petroleum Systems Modeling

Co-Chairs: *J. Berthelon and R. Tscherny*

- **Origins of Fluid Compositional Variation in Northern Iraq, Northeast Syria and Southeast Turkey:** A. S. Pepper
- **Geochemical Comparison of Oils From Upper Pennsylvanian Kansas Reservoirs, Northwest Kansas to Woodford Shale Source Rocks: A Case for Long Distance Migration:** B. Tamborello, R. Philp
- **Wolfcamp Geochemistry and 3-D Basin Model of the Midland Basin:** I. Yurchenko, S. Hamlin, W. Fairhurst
- **Improving Burial and Thermal History Modeling Based on Geochemistry and Progressive Clay Mineralogical Transformation in Devonian Shales – Examples From the Duvernay and Muskwa Formations in Western Canada:** R. A. Wust, S. Tu
- **Scaling Analysis of the Coupled Compaction, Kerogen Conversion, and Petroleum Expulsion During Geological Maturation:** Q. Yuan, Y. Mehmani, A. K. Burnham, A. Lapene, J. Wendebour, H. Tchelepi
- **Understanding the Role of the First Carrier Bed: Simple Rules of Thumb and Workflows That Can Reduce the Dry Hole Rate:** Z. He
- **Fully Coupled Geomechanics-Basin Modeling and the Link Between Tectonics and Natural Hydraulic Fracturing: Application to the Neuquen Basin:** T. Cornu, M. Cacas-Stenz, R. Traby, D. Colombo, J. Fey, A. Bouziat, N. Guy
- **Interplay Between Depth-Dependent Leakage, Fault Sealing and Pore Pressure Buildup on Selected Areas of the Norwegian Continental Shelf:** C. Hermanrud, G. Teige, M. Osnes, H. Nordgård Bolås
- **Faulted Column Heights:** B. Freeman, G. Yielding, P. Bretan, D. Quinn



Theme 1: Paralic and Shallow Marine Systems: Process Variability and Impact on Reservoir Distribution and Architecture

Co-Chairs: V. M. Rossi, J. Zhang, and C. Olariu

- **Dislocations in the Wilcox/Carrizo Sediment-Routing System: Emerging Evidence From Central Texas:** C. Denison, J. M. O'Keefe, T. D. Demchuk
- **Stratigraphic Architecture of Hunter River Valley Fill, Southeast Australian Margin:** R. Boyd, N. Bates
- **Depositional Facies and High-Resolution Sequence Stratigraphic Analysis of a Mixed-Process Influenced Deltaic System in a Stormy Ramp Setting: The Cretaceous Gallup System, New Mexico, USA:** W. Lin, J. P. Bhattacharya
- **Quaternary Transgressive, Tidal- and Wave-Dominated Coastal-Systems in the Northeastern Sardinian Relict Shelf: Spatial and Temporal Variations in Coastal Process Regime:** F. Gamberi
- **Mouth-Bar Element Complexes: Internal Architecture and Effect of Depositional Process on Modern Deltaic Systems:** B. K. Vakarelov, R. B. Ainsworth
- **Compensational Stacking and Architecture of Mouth-Bar Deposits in a Mixed-Process Deltaic Environment; Mulichinco Formation, Neuquén Basin, Argentina:** A. R. Sleveland, O. Galland, H. Leanza, I. Midtkandal
- **Facies Characterization and Depositional Architecture of the Fruholmen and Stø Formation, Barents Sea, Norway:** J. D. Sanchez Mendoza, H. Dowd Martinez, E. Stueland
- **Outcrop and Subsurface Characteristics of Tidally Modified Shelf Edge Delta and Upper Slope Deposits of the Blair Formation, Rock Springs Uplift, Wyoming:** K. L. Belcher, P. P. Flaig, R. J. Steel
- **Fluid Mud Transport in the South China Sea – A Case Study of Sediments on the Continental Shelf of Qiongdongnan Basin:** R. Zhao, S. Chen, H. Wang, R. J. Steel

The Big Crew Change: Passing the Baton and Challenges Awaiting Mid-Career Geoscientists

See page 15 for more information on this special forum.

Panelists:

- Vanessa Kertznus, Supervisor Gulf of Mexico West, Shell
- Diana Duran, Geological Advisor Permian Exploitation Group, Occidental Petroleum
- Nysha Chaderton, Technical Team Lead, ExxonMobil
- Michael Pyrcz, Associate Professor, The University of Texas at Austin
- Nancy Slatter, Managing Partner, Cabral Energy
- Ika Novianti, Director Geophysical Operations, Ion Geophysical

DEG Special Session: Environmental Impact and Sustainability

Co-Chairs: M. Barrett and M. A. Jacobs

See page 15 for more information on keynote speaker Iain Stewart.

- **Communicating Contested Geoscience to the Public: “Matters of Fact” vs. “Matters of Concern”:** I. Stewart
- **A Comparison of Temperature Trends of Industrial Era and Pre-Industrial Age:** D. A. Carlson
- **Sustainable Development and the UN Sustainable Development Goals: Where Do the Geosciences Fit In?:** M. S. Winsten, D. Domeracki, J. Lima
- **Transitional Role of the Oil and Gas Industry in Addressing Climate Change:** R. Leonard, A. Berman

TUESDAY AFTERNOON POSTER SESSIONS

Theme 7: Geophysics: Beyond Seismic Methods

Chair: N. Tisato

- **Application of Stratigraphic Slice Technique Based on Seismic Inversion in Predicting Subsalt Carbonate Reservoir:** L. Dong, W. Hongping
- **Characterization of a Mass Transport Deposit Using Seismic Attributes: Upper Leonard Interval, Midland Basin, West Texas:** P. Bhatnagar, S. Verma
- **Crustal Structure of the Onshore Cenozoic Niger Delta Basin, Interpretations From High-Resolution Gravity and Magnetic Data:** L. N. Onuba, Chukwuemeka Odumegwu

TECHNICAL PROGRAM TUESDAY

- **Upscaling Porosity by Fractal Dimension Using 3-D Micro CT and 2-D SEM Images:** M. Munawar, S. Vega, C. Lin (Presented by: S.J. Sameeni)
- **Enhancement of Anomalies in Time-Lapse Seismic Data by Means of Principal Component Analysis:** T. S. Ruchiga, R. D. Portugal, M. Xavier
- **Lithology Estimation by Full Wave Sonic and 3-D Seismic Data at the Mississippian Pennsylvanian Boundary of Western Osage County, Oklahoma:** C. Falzone, D. C. McCabe, C. Liner
- **New Techniques Using High-Density Seismic Array Data Analysis to Determine 3-D Fault and Crustal Structures in the Long Beach Basin:** A. F. Allevato, R. Clayton, D. Weeraratne
- **New-Old Potential Field Data in the Alaska OCS:** M. Unger
- **LiDAR-XRF Constrained Forward Seismic Model of McKittrick Canyon Shelf Slope: High-Resolution Into Its Sequence Stratigraphy and Insight Into Interpretation of Seismic Profiles of the Permian Subsurface:** C. Xu, Z. Wang*, J. D. Pigott
- **Using Stratigraphic Modeling to Ascertain the Sensitivities and Uncertainties in Computing the Gravity Responses of Sedimentary Basins:** V. Crombez, R. Chopping, L. Peeters

Theme 2: Carbonates: Permian Basin

Co-Chairs: *J. Rush and M. T. Reistoffer*

- **Shelf-to-Basin Architecture and Depositional Trends, Missourian-Wolfcampian Strata of the Eastern Shelf of the Southern Midland Basin, West Texas:** T. F. Hentz, W. A. Ambrose, H. Hamlin
- **Preliminary Results on Depositional Facies, Sediment Origin and Diageneses of Late Paleozoic Shale Horizons From the Midland Basin, West Texas:** H. Green, B. Segvic, T. R. Walsh
- **Depositional Processes, Sequence Stratigraphic Framework, and Reservoir Quality of the Wolfcamp A Formation in the Delaware Basin, West Texas:** M. T. Reistoffer, M. Mltzdarffer, M. Grammer, C. M. Bowie, E. P. Kvale
- **Wolfcampian Shelf-to-Basin Stratigraphic Framework of the Central Basin Platform and Midland Basin, Andrews County, Texas:** C. Draper, C. Kerans, G. P. Wahlman
- **The Darwin and Keeler Basins as Outcrop Analogs to the Permian Basin System:** R. Leary, I. Foli, A. Stewart, L. Vaughn, J. W. Van Wijk

- **Geochemical and Petrophysical Characterization of the Mississippian Limestone and Barnett Formation Along the Eastern Margin of the Central Basin Platform, Permian Basin, USA:** M. Hemenway, M. Nieto, H. Rowe, E. Krukowski, R. Krumm
- **Wolfcamp to Third Bone Spring (Permian) Lithofacies From Core: Depositional Styles and Play Concepts, Delaware Basin:** C. Collier, A. D. Parker
- **3-D Integrated Geological Model Construction of Fasken Ranch Area, Midland Basin, Texas:** R. Dommissie, C. Kerans, C. Zahm, F. Male, S. Pollock, R. Bianco
- **Megatsunamiites of the Guadalupian Bell Canyon Rader Limestone:** J. D. Pigott, T. W. Moreland, J. S. Hornbuckle, K. L. Pigott, F. Shi

Theme 2: Carbonates: Depositional Models II

Co-Chairs: *Y. Xiao and S. Halli*

- **Complete 3-D Reconstruction of an Early Paleozoic Fore-Reef Succession in Yukon, Canada:** J. Busch, J. V. Strauss, M. H. Saylor
- **Uncertainty Analysis of Reservoir Quality and Pressure Barriers in a Sub-Salt Carbonate Platform Using Forward Stratigraphic Modeling (Serpukhovian Stage, Karachaganak Field, Kazakhstan):** C. John, I. Kussanov, N. Hawie
- **Origins of Carbonate Spherulites in Sedimentary Rocks, Examples From Early Carboniferous Lacustrine Sediments (East Kirkton of Scotland) and Laboratory Experiments:** L. Guo, S. Wu, W. Zhou, S. Passey
- **Seismic Characterization and Origin of Clinoforms in Lacustrine Depositional Environments: A Case Study From the Cretaceous of the South Atlantic:** A. Barnett, L. Fu, T. Rapasi, K. Juk, C. Scotellaro, J. Guha, A. Licia
- **Optimizing Subsurface Predictions in a Mississippian Carbonate Field, Central Alberta, Canada – Part 2:** P. Bauman, C. Barton
- **Significance of Microbial Binding in Silurian Forereef Slope Deposits at Pipe Creek Jr. Quarry, Indiana:** A. Santiago Torres, J. Karsten, G. Grammer, D. R. Prezbindowski, J. Havens
- **Paleo-Environment Reconstruction and Source Rock Prediction in Brink Bags: A Case Study in Eastern China:** L. Zhang

Theme 8: The Digital Transformation in the Geosciences

Co-Chairs: J. Deck, A. Hosford Scheirer, and L. E. Stright

- **Machine Learning Using Natural Language Processing to Access Geoscience Knowledge:** R. R. Jones
- **Svalbox: A Geoscientific Database for High Arctic Teaching and Research:** K. Senger
- **Application of Decision Tree to Determine Failure Modes for Dry Segments in the Deep-Water Taranaki Basin, Offshore New Zealand:** J. M. Samis, A. V. Milkov
- **Artificial Intelligence Application on Seismic Data for Automatic First-Break Arrival Picking:** H. Gupta, D. Peter, J. Akram
- **Facies Classification Based on Well Logs by Using a Convolutional Neural Network:** Z. Zhong, T. R. Carr
- **Automated Lithology Prediction From Core Images and Well Log Data Using Machine Learning Models: A Case Study From the Greater Schiehallion Area, West of Shetland, United Kingdom:** T. P. Martin, R. G. Meyer, Z. R. Jobe
- **Evaluation Method of Low Permeability Reservoirs Based on Logging Petrophysical Facies Identification: A Case Study of the Upper Member of Mengyin Formation in Gaoqing Area, Dongying Depression:** Y. Wang, S. Yang, X. Wang, Y. Lu
- **Application of Neural Networks and Machine Learning in Tiltmeter Analysis in Hydraulic Fracturing Diagnostics:** B. Bagherian
- **Comparison of Clustering Techniques to Define Chemofacies: Case Study for Mississippian Rocks in the STACK Play, Oklahoma:** D. E. Duarte, R. Pires de Lima, R. M. Slatt, K. J. Marfurt

Theme 4: Structure and Geomechanics of Unconventional Plays

Co-Chairs: A. Fernandez and L. Cruz

- **Development of an Analytical Method Based on Two Failure Criteria to Study Slip Risk Related to Fluid Injection: Case Study North-Central Oklahoma, USA:** D. E. Duarte, L. J. Candela-Becerra, R. M. Slatt
- **An Integrated Modeling Approach for Multi-Scale Fault-Related Fractures in Tight Sandstone Reservoirs Based on Structural Control and Geomechanical Method:** H. Li, C. Lin, C. Ma, D. Elsworth, L. Ren, S. Liang, J. Tian

- **Mechanical Stratigraphy and Barriers to Hydraulic Fracture Growth: Insights From Geomechanical Models:** K. J. Smart, D. A. Ferrill, R. N. McGinnis, A. P. Morris, K. D. Gulliver
- **Organic Matter Matters! The Role of Organic Matter Composition on Shale Geomechanics:** T. Fender, C. Van Der Land, M. Rouainia, J. Hennissen, S. Graham, T. Wagner
- **Structural Controls on the Stimulated Rock Volume:** S. A. Busetti
- **Principal Stress Orientations and Relative Magnitudes in Unconventional Oil and Gas Basins, Western Cordillera and Central and Eastern USA:** J. Lund Snee, M. D. Zoback
- **Multiscale Natural Fracture Characterization and Controlling Parameters Contribution Quantification Analysis: Woodford Example:** J. Zhang, D. M. Becerra Rondon, R. M. Slatt
- **Natural Fractures Network Development Due to Fluid Production in Anisotropic and Impermeable Granular Materials: Application to Organic-Rich Shales:** A. Zanella, S. Larmier, J. Thomas, M. Régis
- **Stress Memory and Overpressure Retention in the Wufeng-Longmaxi in the Vicinity of a Fault Zone:** R. Liu, F. Hao, T. Engelder, C. Teng, S. Xu, Z. Shu
- **Mechanical Stratigraphy Controls on Vertical Fracture Patterns in the Upper Triassic Tight Oil Sandstones, Ordos Basin, China:** W. Lyu, L. Zeng, L. Peng, H. Chen
- **Deformation Within the Utica/Point Pleasant Reservoir, Northern Pennsylvania and Southern New York: A Case for Seismogenic Origin:** G. C. Bank, T. A. Bardol, A. G. Smith

Theme 4: Modeling of Structural and Geomechanical Processes

Co-Chairs: E. Finch and J. P. Evans

- **Implications on Porosity and Fluid Flow From Micro-Scale Parasitic Folding:** X. Liu, A. Eckert*, P. Connolly
- **Dragged and Detached Primary Welds, and Horizontal Axis Rotation of Minibasins During Contractional Reactivation of Salt Ridges: Insights From Analog Modeling:** P. Santolaria, N. Carrera, O. Ferrer, J. Muñoz, C. L. Schneider
- **Deformation Mechanism of Unconsolidated Quartz Sands as a Function of Grain Size Distribution: Insights Into Deformation Band Formation in Mixed Aeolian-Fluvial Reservoirs:** K. D. Clark, I. Stimpson, J. D. Bedford, D. R. Faulkner



TECHNICAL PROGRAM TUESDAY

- **Comparison Between Inverted Oblique Rift Sandbox Models and Phitsanulok Basin Structural Styles, Onshore Thailand:** P. Amonpantang, J. Wu, K. McClay
- **Quantitative Evaluation of Mechanical Heterogeneity of Sedimentary Sequences:** Y. Pei, T. Li, K. Wu
- **Vertical Versus Inclined: A High-Stress Environment Where Deviated Wells are Easier Than Vertical:** J. Avila
- **Analog Modeling of Penetrative Strain Around Laramide Structures: Similarities and Differences Between Thick and Thin-Skinned Styles of Deformation:** C. M. Burberry, J. B. Lowe
- **Numerical Modeling of Cenozoic Compressional Events of Northwest Himalayas, Pakistan:** M. Miraj, N. Ahsan, H. Mehmood, M. Manzoor
- **Preservation of Structural Information Across Prospect Portfolios:** S. A. Stewart, S. N. Awf
- **Links Between Fault Evolution and Drainage Development, and the Influence on Deep Rift Sedimentation, Northwest Shelf Australia's Dampier Sub-Basin:** H. Chen, L. J. Wood, R. L. Gawthorpe, X. Zhu
- **Shallow Water Flows in Gulf of Mexico, Relating High Sedimentation Rates to Proglacial Lake Source and Mass Transport Deposits in Deepwater Sink:** T. W. Bjerstedt, K. V. Kramer
- **Provenance Evolution and Sedimentary Analysis of the Paleogene Pearl River Mouth Basin, South China Sea: Insights From Integrated Analysis of 3-D Seismic and Detrital Zircon Data:** Z. Zeng, H. Zhu, X. Yang, H. Zeng

Theme 1: Source to Sink I

Co-Chairs: M. D. Sullivan, C. Gong, and M. L. Sweet

- **Sediment Mass Budget for the Middle Jurassic "Brent Delta" Sediment Routing System, Northern North Sea:** I. C. Okwara, G. J. Hampson, A. C. Whittaker, G. G. Roberts
- **Source-to-Sink Analysis of Reservoir Distribution: Lower Eocene Dornoch Delta-Hermod Fan Sediment Routing System, East Shetland Platform, Northern North Sea, United Kingdom:** C. J. Brewer, A. C. Whittaker, G. J. Hampson, G. G. Roberts
- **Understanding the Changing Clinoform Architecture of the Late Miocene Cruse Formation, the First Clastic Wedge of the Paleo-Orinoco Delta Onshore Trinidad:** A. Osman, R. J. Steel, R. Ramscook
- **Linear-Sourced Slope Channel Systems in High Sediment Supply Basin Margin Clinoforms:** Y. Gan, C. Olaiu, R. J. Steel
- **Applications and Method Development for Detrital K-feldspar Common-Pb Provenance Analysis:** E. J. Reat, M. Stearns, C. L. Johnson, D. Fernandez
- **Controls on Shelf-Margin Growth and Reservoir Development in an Active, Supply-Dominated and Greenhouse Early Cretaceous Margin Across Timescales:** V. Paumard, J. Bourget, T. Payenberg, A. D. George, R. B. Ainsworth, S. Lang
- **Outcrop Examples of Falling Stage Systems Tracts: Quantification and Exploration Significance:** W. Lin, J. P. Bhattacharya

Theme 1: Source to Sink II

Co-Chairs: M. L. Sweet, C. Gong, and M. D. Sullivan

- **Tracking Sediments From Source to Sink in the Andean Orogenic Belt and Foreland Basin System:** B. K. Horton, L. J. Jackson, T. N. Capaldi, K. L. Butler, S. W. George, E. G. Gutierrez, C. A. Mackaman-Lofland
- **Sediment Routing Analysis of the Early Cretaceous McMurray Formation in East Alberta, Canada:** A. M. Wahbi, M. Blum
- **Critical Differences in Sediment Routing From Deltas to Deep-Water Fans Between Marine and Lacustrine Basins: A Comparison of Marine and Lacustrine Aggradational to Progradational Clinothem Pairs:** C. Gong, R. J. Steel
- **A Source-to-Sink and Reservoir Quality Prediction Workflow: The Offshore Nile Delta:** L. D. Fielding, L. B. Davies, S. R. Fielding
- **Recycling a Sedimentary Basin – Evidence From Microscopic Fluid Inclusions in Detrital Quartz:** B. G. Haile, H. Hellevang, T. G. Klausen, S. Olaussen, C. H. Eide, W. Helland-Hansen
- **Provenance and Sandstone Modal Compositional Trends From Upper Cretaceous Nonmarine Siliciclastic Strata of the Sevier Foreland Basin in Northern and Central New Mexico:** S. Bartnik, B. A. Hampton, G. Mack, C. J. Stopka
- **Provenance Evolution of Paleocene-Miocene Guadalupe-Live Oak Deltas in South Texas: Insights From Detrital Zircon Geochronology:** J. Xu, J. Zhang, J. W. Snedden, D. Stockli
- **The Role of Discharge Variability on Environmental Signal Propagation: An Experimental Study:** H. Li, P. Plink-Bjorklund



- **Quantifying the Risk on Reservoir Quality with Forward Stratigraphic Modeling in Frontier Areas – Orphan Basin, Canada:** A. Thebault, V. Gervais-Couplet, M. Callies, P. Jermannaud
- **A Numerical Approach to the Effect of Different Clay Types on the Properties of Cohesive Sediment Gravity Flows and Their Deposits:** R. Basani, M. L. Baker, J. H. Baas, E. W. Hansen

Theme 5: Unconventional Reservoir Characterization I

Chair: *G. Kamat*

- **A Method for Characterizing Pore Size Distributions of Well Cuttings Utilizing Water Intrusion:** J. Orso, F. Hasiuk, B. Dawson
- **Semi-Quantitative SEM Analysis of Vaca Muerta Formation, Neuquén Basin, Argentina:** L. B. Smith, F. G. Tomassini, J. Schieber
- **Impact of Kerogen Molecular Structure on Hydrocarbon Recovery: Tracing the Line of Death:** V. Agrawal, S. Sharma
- **Quantifying the Influence of Fractures for More Accurate Laboratory Measurement of Shale Matrix Permeability:** S. Peng, B. Ren, M. Meng
- **Petroleum Expulsion and Formation of Porosity in Kerogen:** A. A. Brown
- **Characterization of Organic Matter Hosted Pores in Cambrian Shale, South China: Implication of a Role of Lithofacies Difference to Pore Development:** X. Tang, J. Zhang, J. Hong, Z. Ma, Y. Li, D. Shao, H. Luo, T. Zhang
- **Controls on Mudrock Pore System Development in the Upper Mississippian Barnett Shale, Fort Worth Basin, Wise County, Texas:** R. M. Reed, R. G. Loucks, H. D. Rowe
- **Pore Network Heterogeneity in Tight Oil Reservoir Rocks—Analysis From 3-D Confocal Laser Scanning Microscopy (CLSM):** S. Arens, C. W. Bomberger, M. S. Hendrix, M. H. Hofmann
- **Pore Characterization of Bakken Shales (Mississippian-Devonian) in the Williston Basin:** C. Onwumelu, S. H. Nordeng
- **Pore System Characterization of Wolfcamp Lithofacies, Delaware Basin:** J. J. O'Brien, C. M. Bowie, E. P. Kvale

Theme 5: Unconventional Reservoir Characterization II

Chair: *D. H. Nicklaus*

- **The Significance of Framboid-Hosted Porosity in the Marcellus Shale of the Appalachian Basin, USA:** D. R. Blood, G. Lash
- **Shelf-Margin Clinoforms of the Vaca Muerta-Picún Leufú System in the Neuquén Basin, Argentina:** L. E. Rueda Sanchez, G. P. Eberli, P. K. Swart, R. J. Weger, M. Tenaglia
- **Understanding the Isolated Pores in Bakken Shale Using SANS Method:** K. Liu, M. Ostadhassan, W. Liang, J. Zou, T. Gentzis
- **Tepee Buttes, Methane Seeps, and Polygonal Faults, Denver Basin:** S. A. Sonnenberg
- **Digital Outcrop Modeling of the Lower Silurian Qusaiba Shale Member—Implications for Reservoir Quality and Architecture, Central Saudi Arabia:** M. S. Osman, O. M. Abdullatif
- **An Integrated Sedimentologic-Chemostratigraphic Study of the Late Devonian-Early Mississippian Chattanooga Shale in Kansas: High-Resolution Stratigraphy and Organic Matter Accumulation:** S. Brower, K. Goldberg
- **Upscaling of Wireline Log-Derived Reservoir Properties With Minimum Data Loss:** G. Austermann, D. Harazim
- **Comparison of the Compositional and Mineralogic Control on Rock Strength Between the Middle Bakken and Three Forks Formation, Williston Basin, USA:** T. Prather, M. Hemenway, H. Rowe, A. Morrell, P. Mainali, H. Garza, R. Nikirk
- **Petrographic Analysis of Tuscaloosa Marine Shale (Upper Cretaceous) Core Recovered From Eads Poitevent #1:** M. K. Fearn, R. Gottardi, D. Oppo
- **Detailed Sedimentological and Stratigraphic Analysis of the Duvernay Formation in the Kaybob Area, Alberta, Canada:** D. J. Shaw, N. B. Harris

TECHNICAL PROGRAM WEDNESDAY

WEDNESDAY MORNING ORAL SESSIONS

Theme 10: Deals and Investment Decisions

Co-Chairs: *R. C. Shoup and H. Manueco*

- **Adventures in Exploration Deal-Making, Examples, and Lessons:** B. C. Duval
- **From Idea Generation to Opportunity Capture:** E. G. Hathon
- **Breaking Paradigms to Succeed in the Dnieper-Donets Basin:** T. A. Rehill
- **Geologic Drivers of Recent Asset Transactions in Unconventional Resource Plays:** S. Gryger
- **From Discovered Volumes to Development With a Little Help From A&D:** H. Manueco
- **Enhance Decision-Making in the Development of Shale Resources:** C. J. Cui, P. K. Galvin, J. Oletu
- **Exploration Portfolio Optimization: A Rigorous Tool for Strategic Investment Decisions:** M. Savage
- **A Corporate Strategy for Reducing Dry Holes and Improving Resource and Reserve Estimates:** R. C. Shoup
- **Assuring Investor Confidence Through Qualified Reserves Evaluators Applying Globally Accepted Principles of Evaluations and Reporting:** R. Harrell

Theme 5: Eagle Ford and Austin Chalk Unconventional Play

Co-Chairs: *A. S. Douds and A. Fernandez*

- **Forcing Mechanisms on Late Cretaceous Carbonate Sedimentation: The Austin Chalk Group of Central Texas:** A. Godet, J. R. Cooper, A. Hancock, M. C. Pope, M. Bernardo
- **Core-Based Characterization of the Upper Cretaceous Austin Chalk Group in Western Louisiana; Comments on Depositional Setting, Lithofacies, Organic Matter, and Pore Networks:** R. G. Loucks, T. E. Larson, C. K. Zahm
- **A Type Cored Section for the Upper Cretaceous Austin Chalk Group in South Texas; Getty No. 1 Lloyd Hurt Well, LaSalle County, Texas:** R. G. Loucks, C. K. Zahm, T. E. Larson
- **Carbon-Sulfur Dynamics in the Cretaceous Eagle Ford Formation:** M. Mertesdorf, C. Maerz, U. Mann, S. C. Ruppel, T. Wagner
- **The Maness Shale: A Comparison of the Geomechanical and Mineralogic Properties Within the Lower Eagle Ford Near the San Marcos Arch:** S. Patterson, R. A. Denne

- **Porosity Characterization of the Cretaceous Eagle Ford Formation:** I. Gaiani, A. C. Aplin, R. J. Day-Stirrat
- **Source Rock Potential Evaluation of the Eagle Ford – Austin Chalk Transition in San Antonio, Texas:** G. C. Velko, A. Gupte, J. R. Cooper, A. Godet
- **Seismicity of Eagle Ford Since the Implementation of TexNet Earthquake Catalog January 1, 2017:** S. Whittaker, A. Savvaadis, P. H. Hennings, A. Morris
- **Mudrock Depositional Environments and Their Significance in Unconventional Resource Plays: An Example From The Cenomanian to Turonian Eagle Ford Group in South and West Texas:** R. A. Conte, M. C. Pope

Theme 1: Aeolian System Dynamics: What Have We Learned in the Last 50 Years?

Co-Chairs: *C. Hern, S. G. Fryberger, and N. Wilkens*

- **The Eolian Sedimentary Record: What Do We Know and Where Are We Going?:** N. P. Mountney
- **How Dunes Move and the Record They Leave Behind:** D. Cousins, C. Hern*, S. Brooke, M. Gareth, M. Nightingale, R. Westerman, D. Tatum, G. Kocurek, S. G. Fryberger
- **An Integrated Approach to Dune System Analysis:** D. Tatum, R. Westerman, C. Hern, J. Buckman, Z. Jiang
- **Heterogeneities and Facies Architecture in Aeolian Sands Using Core-Calibrated Borehole Image Logs: Deep-Water Norphlet:** E. Cavallerano, C. Hern, J. A. Palmer
- **Allocyclic Controls Upon Clastic/Evaporitic Interactions in Arid Continental Settings: Implications for Reservoir Characterization and Modeling:** R. Pettigrew, S. M. Clarke, P. Richards
- **Autogenic Processes and Environmental Forcings Recorded in Aeolian Stratigraphy I: The Jurassic Page Sandstone, Arizona, USA:** B. Cardenas, G. Kocurek, D. Mohrig, T. Swanson, C. Hughes, S. Brothers
- **Autogenic Processes and Environmental Forcings Recorded in Aeolian Stratigraphy II: Numerical Experiments:** T. Swanson, D. Mohrig, G. A. Kocurek, B. Cardenas
- **Stratigraphic Forward Modeling for Aeolian Reservoir Prediction: Norphlet (EGOM):** O. Falivene, C. Hern, J. A. Palmer, U. R. Nordlund
- **Multi-Resolution Modeling of Ephemeral Fluvial-Aeolian Interactions: Implications for Reservoir Characterization:** C. Priddy, S. M. Clarke, P. Richards



Theme 4: Modeling of Structural and Geomechanical Processes

Co-Chairs: *D. E. Haddad and C. M. Burberry*

- **Faulting Events: Moving Beyond Frictional Thinking:**
G. D. Couples, H. Lewis
- **Empirical Constraints on Fault Displacement Vectors and Implications for Fault Mechanics and Strain Prediction, Taranaki Basin, Offshore New Zealand:** D. Favorito, A. Hughes
- **Flexible Kinematic Modeling Approaches Informed by Observations From Mechanical Forward Models and Natural Structures:** A. N. Hughes, C. D. Connors
- **Structural and Mechanical Analyses of Thrust Ramp Development in Mechanically Stratified Sequences:**
S. Wigginton, J. P. Evans, E. S. Petrie
- **Modeling Natural Fractures in Reservoirs by Incorporating Structural History:** A. Bladon, E. Maccaulay, F. Marks, C. J. Pollock, C. Reilly*, C. Seiler, M. Valcarcel, A. P. Vaughan
- **Deterministic DFN Modeling: A Methodology to Estimate Actual Fracture Plane Size Using Rock Lithology and Microseismic Event Source Information:** S. C. Williams-Stroud
- **3-D Forward Geomechanical Modeling of Differential Compaction Fracturing in Carbonate Reservoirs: Insights From Outcrop- and Platform-Scale Models:** Y. Alzayer, C. K. Zahm, M. H. Nazghah
- **Rethinking Brittleness – How Viscoplastic Stress Relaxation Affects Layer-to-Layer Stress Variations and Vertical Hydraulic Fracture Propagation in Unconventional Reservoirs:**
S. Xu, A. Singh, M. D. Zoback
- **Complex Geological Modeling and Fault Seal Using Unstructured Grids:** S. D. Harris, R. K. Davies, S. Santoshini, S. Grenfell

Theme 1: Applied Ichnology: In Honor of George Pemberton

Co-Chairs: *M. Gingras and J. A. MacEachern*

See page16 for more information on this special session.

- **The Neoichnological Basis for a Brackish-Water Ichnofacies:**
M. K. Gingras, S. E. Dashtgard, A. La Croix, K. L. Bann, J. A. MacEachern
- **Neoichnological Characterization of Gironde Estuary and Arcachon Bay, France: Testing the Brackish-Water Model:**
S. E. Dashtgard, M. K. Gingras, H. Fénîès, R. Bourillot
- **Interpreting Heterolithic Fabrics Using Ichnological Relationships: Case Study From the McMurray Formation, Alberta, Canada:** S. Melnyk, M. Gingras
- **Ichnology of a Seasonally-Dominated Deltaic / Estuarine Complex: The Pleistocene Palaeo-Kambinaru River, Sumba, East Nusa Tenggara, Indonesia:** J. Zonneveld, Y. Zaim, Y. Rizal, A. Aswan, A. Hascaryo, N. Adani, A. Fortuin, M. Gingras, R. Larick, R. Ciochon
- **Ichnology and Paleoenvironmental Interpretations of the Cretaceous–Paleocene Rift Succession of Northeast Baffin Island Region, Nunavut, Canada:** L. T. Dafoe, J. W. Haggart, G. L. Williams, M. R. Stimson, M. R. Stimson
- **The Exploited: Ichnologic Analogs for Multi-Lateral Horizontal Oil Drilling in the Early Cretaceous (Albian) Clearwater Formation, Alberta, Canada:** I. Raychaudhuri, J. A. MacEachern, M. K. Gingras, M. J. Young
- **Applied Ichnology in Modeling Mississippian Reservoirs, Upper Midale Beds, Weyburn Oilfield, Saskatchewan: How to Use Paleobiology in Predictions on Dolomitization, Characterization and Compartmentalization?:** A. D. Keswani, S. G. Pemberton, University of Alberta, Edmonton, AB, Canada
- **Using PyCHNO to Generate Training-Image Datasets for Machine Learning Ichnology:** E. R. Timmer, M. Gingras, C. Knudson, J. Zonneveld
- **A Forced Regressive Asymmetric Delta, Lower Cretaceous Viking Formation, Kaybob – Fox Creek Fields, Alberta, Canada:**
J. A. MacEachern, N. Díaz

TECHNICAL PROGRAM WEDNESDAY

Theme 3: From Pores to Production: Unraveling Fluid Dynamics on Their Journey to the Surface

Co-Chairs: S. Wright, T. Zhang, and V. Parisi

- **Influence of Original Charge Histories on Subsequent Patterns of TSR and Ultimate Field Distributions of Hydrogen Sulfide:** A. N. Bishop, Y. Tang
- **Asphaltenic-Rich Tar in the Subsurface: Case Study From Reservoir Overburden in a Giant Subsalt Oil Field (Mad Dog, Gulf of Mexico, USA):** B. S. Slotnick, G. Rowe, T. Jia, C. D. Walker
- **Fluids in Nano- and Meso-Pores: Insights Into CH_4 - CO_2 - H_2O Behavior in Unconventional Reservoirs:** R. Kirkpatrick, G. M. Bowers, N. Loganathan, O. Yazaydin, H. Schaefer, J. Loring, D. W. Hoyt, S. D. Burton, E. D. Walter
- **Stable Isotope and Noble Gas Geochemistry of a High-Nitrogen Permian Sandstone Reservoir, Northern Denver-Julesburg (D-J) Basin, Southeastern Wyoming, USA:** C. D. Laughrey
- **Simulation of Acidizing Dissolution Front Instability in Carbonate Rocks:** R. Dong, M. Wheeler
- **Organic and Inorganic Geochemistry of the Mississippian Limestone in the Anadarko Shelf:** O. O. Adeboye, I. Al Atwah, N. Riedinger, T. M. Quan
- **Application of Raman Spectroscopy in Understanding Organic Matter Heterogeneity and Maturation Rate:** S. Khatibi, M. Ostadhassan, P. C. Hackley, D. Tuschel, B. Bubach
- **Fluid-Rock Interaction and Hydrocarbon Migration: Quantifying Wettability-Affected Advection and Diffusion Processed in Various Reservoir Rocks:** Q. Hu

Theme 2: Carbonate Rock Properties and Reservoir Performance Prediction

Co-Chairs: T. Buono and S. Zhang

- **Elucidating Dolomitizing Conditions and Potential Recrystallization Using Textural and Geochemical Relationships: A Case Study From the Umm er Radhuma Formation, Qatar:** B. H. Ryan, S. E. Kaczmarek, J. M. Rivers
- **Reactive Transport Modeling Approach to Studying Silicification of Carbonates:** B. Garcia-Fresca, T. Gabellone, F. F. Whitaker
- **Calibration of NMR Permeability Using Cluster Analysis and Cloud Matching:** A. Arora, J. Browning, S. K. Henderson, G. B. Asquith, S. Gorell

- **Multistage Quartz Cementation of Tripolitic Chert, Reeds Spring Formation, Mississippian, Northwestern Arkansas and Northeastern Oklahoma:** S. Halli, J. Gregg, J. O. Puckette
- **NMR Characterization of Micro- to Nanoporosity Within Diagenetically Complex Carbonate Reservoirs: Mississippian-Aged Carbonates (Reno County, Kansas):** I. Y. Bode-Omoleye, C. Zhang, M. G. Grammer
- **Experimental Insights on Mineralogical Stabilization in Carbonates:** M. Hashim, S. E. Kaczmarek
- **Integration of NMR, MICP, and Quantitative Digital Petrography for Improved Understanding of Carbonate Pore System Complexity:** A. S. Buono, E. M. Bunge, S. M. Fullmer, K. C. Galvez, P. J. Moore, O. Ijasa, J. M. Rivers
- **Magnesium-Rich Rims in Calcite Microcrystals: Possible Cause of Water-Wet Conditions in Microporous Tor Formation Depositional Chalk:** C. J. Rinderknecht, F. Hasiuk

Theme 7: Remote Sensing, Monitoring, and Regional Studies, and Gulf of Mexico

Chair: W. Weinig

- **A Parsimonious Approach to Gravity Inversion for Salt Shape Delineation:** S. Re, L. D. Masnaghetti, E. Medina
- **Delineating Depositional Environments in a Mixed Carbonate-System With Poor Quality 3-D Seismic – An Example From the Coeval Sinjar, Khurmala, and Kolosh Formations of the Kurdistan Region of Iraq:** N. Raterman, R. A. Dvoretzky, D. F. Goff
- **Electron Paramagnetic Resonance Sensor for Oil Exploration and Reservoir Design:** S. Csutak, V. Riachentsev, G. Bernero
- **Refracture Candidate Selection Considering Natural Fracture Orientation in the Near-Fault Damage Zone:** T. Ramsay, L. Hernandez, J. Li, M. Erdogan
- **Hydrocarbon Exploration Approach Utilizing Satellite Imagery and Airborne Radiometric Data, Beetaloo Sub-basin, Northern Territory, Australia:** S. L. Perry
- **Identifying and Drilling Through Intra-Salt Hazards—A Case Study From Stampede Field, Deep-Water Gulf of Mexico:** G. K. Mohapatra, E. Moran, M. Sasser, S. Uchytel, W. Martins, J. Lopez
- **Exploration in the Atlantic Conjugate Margin Using CSEM Data as Part of an Integrated Workflow:** P. T. Gabrielsen, D. Helland Hansen, V. Ricoy-Paramo*, T. de Souza Dumas, L. Berre

*Denotes presenter is other than first author



- **Statistical Characterization of Non-Matrix Porosity and Permeability in a Devonian Dolostone Reservoir From Alberta, Canada:** J. B. Dunham
- **Comparing Stratigraphic Architecture and Petroleum Systems Across the South Atlantic Margin:** K. McDonough, B. W. Horn, K. R. Reuber, F. Brouwer, K. McDermott
- **Modeling and Monitoring Reservoirs Over Their Lifetimes:** M. L. Oristaglio, S. Oppert, J. Stefani, J. Herwanger, P. Popov, L. Tan

WEDNESDAY MORNING POSTER SESSIONS

Theme 6: Sustainability and Carbon

Chair: *S. Bakhshian*

- **Regional Assessments of Onshore and Offshore CO₂ Storage Potential for the MRCSP:** L. Cumming
- **Microbial Resetting After a CO₂ EOR Flood May Allow Stimulation of Microbial Methanogenesis to Recover Residual Oil:** J. L. Shelton, R. Andrews, D. Akob, C. DeVera, A. Mumford, J. C. McIntosh, J. McCray
- **An Overview of the MRCSP Petroleum Fields 2018 Database Release:** J. E. Lewis, C. Kristin, P. Dinterman, T. Sparks, W. Harrison, C. Medina, J. Moore, R. Ott, B. Slater, M. Solis
- **Explorations in TOC for Assessment of CO₂ Storage and Enhanced Gas Recovery for the Middle Devonian Marcellus and Upper Ordovician Utica Shales for the Midwest Regional Carbon Sequestration Partnership:** B. C. Nuttall, T. N. Sparks, S. F. Greb
- **Simulation Study of CO₂ EOR and Storage Potential of the Commercial-Scale Integrated CCUS Demonstration Project in the Ordos Basin, China:** H. Wang, Z. S. Jiao
- **CO₂ Mineralization in Natural Analogs of the Yinggehai Basin, Northern South China Sea:** R. Liu, N. Heinemann, J. Liu, W. Zhu
- **Characterization of the High Island 24L Oil and Gas Field for Modeling and Estimating CO₂ Storage Capacity:** I. Ruiz, T. Meckel
- **Application of Machine Learning for WAG Parameters Optimization in CO₂-EOR and Geological Carbon Sequestration:** Z. Zhong, A. Sun
- **Reservoir Numerical Simulation for CO₂ Sequestration in Paraná Basin, Brazil:** N. Weber, C. Tassinari, M. A. Pinto, D. Peyerl*

- **Assessing the Potential for CO₂ EOR and CO₂ Storage in Depleted Oil Pools in Southeastern Saskatchewan, Canada:** G. K. Jensen
- **Applying Exploration Common Process to Site Selection for Geologic Carbon Storage Complexes:** C. D. Walker, T. Espie, J. C. Evenick, J. Hodgkinson, S. Shoulders, A. Ross
- **How a Carbon Tax Could Benefit US Natural Gas Producers, But How Much and For How Long?:** J. M. Rine

Theme 5: International Unconventional Plays

Chair: *Chair: T. Kosanke*

- **Mapping of TOC Rich Intervals in the Vaca Muerta Formation:** M. Tenaglia, R. J. Weger, G. P. Eberli, P. K. Swart
- **Hydrocarbon Accumulations in and Around Basalts in the Cenozoic of Northeast Bohai Bay Basin, China:** Y. Huang, Q. Leng, J. Zhao, S. Wang
- **Assessment of Storage and Productivity Potential of a Frontier Unconventional Shale Oil Play in a Rift Basin, Lower Barmer Hill Formation, Barmer Basin, India:** U. Kuila, B. N. Naidu, V. R. Sunder, D. Beliveau, J. C. Dolson, A. Mandal, S. Dasgupta, P. Mishra, P. Mohapatra
- **Calm Harbor Hypothesis: Chances for China's Shale Gas Exploration in Structurally Complex Areas:** L. Song, J. Zhang, F. Pang, S. Li
- **δ¹³C as a Proxy of Paleoenvironmental Water Conditions During Deposition of the Vaca Muerta Formation (Tithonian-Early Valanginian)—Neuquén Basin:** L. Rodriguez Blanco, G. P. Eberli, P. K. Swart, R. J. Weger, M. Tenaglia
- **Unconventional Oil Play Assessment in Northeastern British Columbia, Canada:** B. J. Hayes, R. Wust, C. Salas, H. Anderson
- **Reservoir Facies Within a Basin Centered Gas Accumulation, Thrace Basin of Northwest Turkey:** R. Sadownyk, T. F. Moslow*
- **Organic-Rich Shale Wettability and Its Controlling Factors: Comparative Investigations of Typical Marine, Continental, and Transitional Shales in the Middle Yangtze Platform (China):** R. Yang, S. He, Q. Hu, G. Zhai, J. Yi
- **Selecting an Appropriate Unconventional Play Analog for the Bowland Shale While Acknowledging Operational Constraints in the United Kingdom:** R. Harrison, T. Oueidat, G. Falcone
- **Outcrop-Subsurface Correlation of the Puerta Curaco Area, Vaca Muerta Formation, Argentina:** R. J. Weger, T. Santana, M. Yükses, L. Alimonti, J. Marino, L. Rodríguez Blanco, G. P. Eberli

TECHNICAL PROGRAM WEDNESDAY

Theme 3: Hydrocarbon Migration and Charge Risk Assessment

Co-Chairs: Q. Liu, N. Kusznir, and Y. R. Zhao

- **Influence of Gas and Oil State on Oil Mobility and Sweet Spot Distribution in Tight Oil Reservoirs From the Perspective of Capillary Force:** Y. Li, Y. Song
- **Geochemical and Fluid Inclusions Analyses of Several Calcite Veins and Matrix Within the Vaca Muerta Formation, Neuquén Basin, Argentina:** S. Larmier, A. Zanella, J. Pironon, C. La, A. Lejay, R. Mourgues, F. Gelin
- **Influence of Pressure on the Kinetic Parameters of Hydrocarbon Gas Generation From Gas-Prone Source Rocks:** C. He, X. Wang, H. Tian
- **Experimental Study on the Influence of Bitumen on Natural Gas Generation:** H. Gai, H. Tian, P. Cheng, T. Li, X. Wang
- **Petroleum System Insights of Newfoundland and Labrador from Fluid Inclusions:** J. Chao
- **The Genetic Mechanisms and Characteristics of Hydrocarbon Migration Induced by Overpressure in the Yinggehai Basin, South China Sea:** C. Fan, Y. Zhang, Y. Deng, H. Li, J. Hou
- **Biogenic Gas Generation Process: Application to the Bay of Biscay: Data Integration and Basin Modeling:** M. Torelli, I. Kowalewski, R. Traby, M. Roger, S. Dupré, E. Deville
- **Apatite Fission Track Thermochronology in 2-D Basin Modeling – A Case Study of a Frontier Basin in a Fold and Thrust Belt:** M. Schwangler, N. Harris
- **Inefficient Charge-Migration or Poorly Characterized Traps:** T. A. Murray, W. Power, S. Sosio de Rosa, Z. Shipton, R. Lunn, D. R. Richards

Theme 1: New Advances in Mature Basins

Co-Chairs: G. Baudot, B. W. Driskill, and E. Pliego-Vidal

- **Trap and Fault Analysis: Revisiting Texas Gulf Coast:** T. A. Murray, T. M. Helm, W. Power
- **A Novel Methodology of Using Well Log Analyses to Identify Brownfield and Greenfield ROZs in the Illinois Basin:** N. Grigsby, N. Webb, S. Frailey
- **CO₂ Storage and EOR Resource Assessment of the Cypress Sandstone Residual Oil Zone Play in the Illinois Basin:** N. Webb, N. Grigsby, S. Frailey

- **New Opportunities in Old Fields: A Case Study From Dahomey Basin, Offshore West Africa:** I. J. Ayodele, C. Cavalleri, E. B. Benard, A. Orimolade
- **Paleo-Canyons and Contemporaneous Oil Seeps Near the Paleocene/Eocene Boundary, Tampico-Misantla Basin, Eastern Mexico:** S. P. Cossey, M. R. Bitter, J. Dickens, D. S. Van Nieuwenhuise, J. L. Pindell, J. H. Rosenfeld, A. Beltran, P. Cornick, C. Agnini
- **A Collective Proven Play of Paleogene Lacustrine Rift Basins in Western Indonesia:** E. H. Sihombing, L. J. Wood
- **Implications for Lower Cretaceous Reservoir Distribution and Geologic Controls for Shelf-Edge Delta Successions; North Slope Alaska:** S. R. Nolan, J. Aschoff
- **Petroleum Geological Exploration Technology – Innovation Strategies, Upper Rotliegend, Polish Permian Basin:** K. Wolanski, S. Chruscinski, A. Wolanska, A. Chmielowiec-Stawska
- **Provenance Analysis of Neogene Guantao Formation in Bodong Sag, Bohai Bay Basin, Eastern China: Implications for Sediment Routing:** Z. Sun, H. Zhu, C. Xu, X. Du
- **Paleogeographic Reconstruction and Characteristic Trends of a Basin Floor Fan in Los Molles Formation, Neuquen Basin, Argentina:** G. Giacomone, C. Olariu, R. J. Steel, M. Shin

Theme 1: Innovation and Technology in Biostratigraphy for Challenging Times

Co-Chairs: M. Lorente, M. Bolivar, and S. Jackett

- **Palynofacies: An Under-Utilized Tool in the Hydrocarbon Industry. Methodology, and Applications:** K. Ruckwied, I. M. Prince
- **To Frack, Follow Heterohelids' Track:** K. Elderbak, R. Leckie, C. M. Lowery
- **Application of Multidisciplinary Biostratigraphy in Tuscaloosa Marine Shale:** M. Kariminia, F. Russo, M. Lorente, R. A. Denne, K. Elderbak, N. L. Engelhardt-Moore, M. Beach, R. E. Hinote, M. Mokhtari, N. Tur
- **Chronostratigraphy and Paleogeography (Aptian to Oligocene) in the Western Apure, Barinas-Apure Basin, Venezuela:** D. Sanchez
- **Petrographic and Biostratigraphic Study on a Representative Core Section From the Kurdistan Region of Iraq:** F. Russo, M. Kariminia, F. Ollivier, T. P. Burchette



- **Ichnologically Distinct Thin-Bedded Turbidite Facies in Lobe Sub-Environments, Upper Cretaceous Nanaimo Group, British Columbia, Canada:** M. M. Walters, J. A. MacEachern, S. M. Hubbard
- **Contributions From Morphological Analysis in Calcareous Nannofossils to Biostratigraphic Resolution:** D. Bord
- **Gulf of Mexico Neogene Astronomically-Tuned Biostratigraphic Time Scale:** J. Bergen, S. Truax, E. de Kaenel, S. Blair, E. Browning, J. Lundquist, T. Boesiger, M. Bolivar, K. Clark*
- **Paleobathymetric Interpretation Via Analog Analysis:** E. Platon, J. Vinnels, C. Steffensen
- **Neogene Changes in Caribbean Paleoproductivity and Paleobathymetry of Deep-Sea Benthic Foraminifera, With Implications for the Gulf of Mexico:** C. R. Pletka, L. S. Collins
- **The Critical Role of Ichnology in Recognizing the True Last Big Marine Transgression of the Western Interior Sea: Paleocene Ferris Formation, Southern Wyoming:** A. Wroblewski, R. Dunn

Theme 4: Global Perspectives on Compressional Deformation

Co-Chairs: *N. Eichelberger and J. W. Granath*

- **Insights Into the Occurrence of Intraplate Strike-Slip Deformation in the Foreland Llanos Basin, Colombia:** P. A. Galindo, J. E. Calderon, G. Zarate, A. Hurtado, C. J. Sanchez
- **Structural Transition From Cordoba Platform to Veracruz Basin (Mexico):** V. Egorov, M. Kaminski, A. Roviroso, A. Hinojos
- **Geology and Tectonic of the Sulaiman Fold Belt, Pakistan:** I. A. Jadoon, M. O. Zeb
- **Dynamics of the Sub-Salt Structural Transitions in the Kuqa Foreland Basin and Its Implication for Hydrocarbon Explorations:** J. Liu, B. Zhao, Y. Liu, Y. Gu, J. Xu, N. Gao, Y. Wang, X. Liu
- **A Promising Hybrid Strike-Slip Associated Structure for Hydrocarbon Accumulation: A Case Study on JZ27-6 Oil-Bearing Structure in the Bohai Sea Area, East China:** G. Wang, S. Li, Y. Hu, Z. Wu, S. Xing, W. Zhao
- **Structural Characteristics of Fault Systems and Controlling Factors of Hydrocarbon Accumulation in the Cenozoic Faults Intersection Area of the Southern Bohai Sea, Eastern China:** X. Zhang, Z. Wu, W. Li, J. Ren, B. Yang

- **Tectonic Characteristics of Tan-Lu Fault Zone (East China) in the South of Bohai Sea Area and Its Controls on Hydrocarbon Accumulation:** Q. Zhang, K. Wu, H. Yang, Z. Wu, W. Li, X. Chen, X. Zhang, T. Guo
- **Characteristics of the Strike-Slip Faults and the Fault-Karst Reservoirs in the Halahatang Oil Field, Tarim Basin:** X. Zheng, H. An, P. Ma, Z. Wang, H. Zhou, L. Zhang
- **Structural Evolution and Seismic Attribute Approach on Defining Strike-Slip Faults: An Impact to Faults Segmentation in West Natuna Basin, Indonesia:** P. Riadini, A. Ritonga
- **Basement-Driven Deformation of the Sedimentary Sequence in North-Central Oklahoma:** F. Kolawole, B. Carpenter, Z. Rechtes, M. J. Turko Simpson

AAPG Student Research Poster Session II

Co-Chairs: *G. A. Janevski and B. Stickland*

- **Present-Day Stress State Prediction of a Tight Gas Reservoir Using Geomechanical Models – A Case Study From the Lower Magdalena Valley Basin, Colombia:** C. I. Guerra, K. Fischer, A. Henk
- **Deltaic Facies Relationships in an Asymmetric Pull-Apart Basin, Lake Izabal, Guatemala: A Case Study From Short Sediment Cores and Geophysical Data:** E. Duarte, J. Obrist-Farner, N. J. Wattus
- **Diagenesis of the Arbuckle Group in Eastern and Central Oklahoma:** P. Bailey, J. M. Gregg
- **Timing of Paleozoic-Cenozoic Tectonic Events in the Permian Basin, West Texas, From Integrated Subsidence and Structural Studies:** H. Zhang, P. Mann
- **Stratigraphic Evolution of Confined Deep-Water Basins: Insights From Physical Models and Outcrop Analogs:** E. Soutter, Z. Cumberpatch, D. Bell, I. Kane, R. Ferguson, Y. Spychala, J. Eggenhuisen
- **Porosity Characterization of Organic Shale Using NMR Technique: A New Method Considering Shale Skeleton Signal:** J. Li, S. Lu, M. Wang, G. Chen
- **Experimental Analysis of Tight Rock Clay Cation Exchange Capacities and Modeling of Properties Critical to Reservoir Desiccation:** S. Smith, M. Shebl, S. McWhorter, D. Hume
- **Gravity-Driven Deep-Water Fold-and-Thrust Belts Along the Continental Passive Margin of East Africa and Their Control on Petroleum Play:** C. Zhang, J. Cai*, Y. He, D. Wu

TECHNICAL PROGRAM WEDNESDAY

- **Geochemical and Microfacies Implication of the El Pujal Section at the Close of Carbon Isotope Segment C5: Organyà Basin, Catalunya, Spain:** J. Socorro, F. J. Maurrasse
- **3-D Seismic Characterization of Sand Injectites in the Palaeogene Succession of the Northern North Sea:** S. Nnorom, M. Huuse
- **Assessment of Oil and Gas Potential of the Jurassic Plays in the South Kara Arctic Basin by 3-D Basin Modeling:** I. A. Sannikova, M. A. Bolshakova, A. V. Stoupakova, A. A. Suslova, R. S. Sautkin, D. B. Baranova
- **Testing the Two-Stage Triassic-Jurassic Opening Model for the Gulf of Mexico From Faults Bounding Shallowly Buried Rifts in the Southeastern Gulf of Mexico:** M. P. Zinecker, P. Mann
- **Reservoir Prediction Based on Geostatistical Inversion by the Facies Trend Model: A Case Study From the Gudian Block, Northeast China:** W. Wang
- **Formation and Characteristics of the Cryogenian High-Quality Source Rock, South China:** T. Li
- **What Happens Beyond the Sandstone Pinchout? Facies and Processes in Muddy Deep-Water Basin-Floor Environments:** K. Boulesteix, M. Poyatos-Moré, S. S. Flint, K. G. Taylor, D. M. Hodgson
- **Morphometric Variations Between Hangingwall- and Footwall-Sourced Alluvial Fans in Active Rift Settings:** D. J. Somerville, N. P. Mountney, L. Colombero, R. E. Collier
- **Three-Dimensional Outcrop Model of an Evolving Supercritical Fan in the Early Gulf of California:** L. M. West, C. Olariu, M. M. Perillo, D. Mohrig, J. A. Covault, R. J. Steel
- **Sequence Stratigraphy in Mudstone Intervals Using Chemostratigraphic Datasets: An Example From the Devonian Canol Formation:** M. T. LaGrange, B. S. Harris, K. M. Fiess, V. Terlaky, M. K. Gingras
- **Pennsylvanian-Permian Climatic Records From Low Latitude Rainsville Trough in Northern New Mexico:** N. Chowdhury, D. Sweet

SEPM Student Research Poster Session II

Co-Chairs: *H. E. Harper and J. F. Sarg*

- **Architectural Variability of a Deep-Water Slope Channel Complex Above a Sequence Boundary, Isaac Formation, Neoproterozoic Windermere Supergroup, Southern Canadian Cordillera:** P. Fraino, L. L. Navarro, B. Arnott
- **Lacustrine Carbonate-Siliciclastic Clinoforms in the Lower-Permian Lucaogou Low-Order Cycle, Southern Bogda Mountains, Northwest China:** Y. Lu, W. Yang
- **Depositionally Conditioned Training Images for Fluvial Sandsheet Reservoir Models: Examples From the Lower Castlegate Sandstone, Utah, USA and Jamuna River, Northern India:** A. J. Mitten, J. Mullins, J. K. Pringle, J. A. Howell, S. M. Clarke
- **Analysis of the ~2.57 Ga Hamersley Basin Using Statistical and Petrographic Techniques:** K. S. Korman, A. K. Davatzes
- **Sedimentology, Ichnology, Petrology and Development of 3-D Conceptual Numerical Model of Bulk Flow Properties for the McMurray Formation in the Mackay River Area, Northeastern Alberta:** P. S. Akinbodewa, M. Gingras
- **Mixed Signals: Using Numerical Modeling to Disentangle Milankovitch Cycles in a Complicated Outcrop:** D. Beelen, F. J. Hilgen

Theme 8: Application of Machine Learning to Imaging

Chair: *C. Shrivastva*

- **Utilization of High-Resolution Short- and Long-Wave Hyperspectral Imaging for Integrative Rock Typing:** X. Liu, T. Kosanke
- **Obtaining Geomechanical Information From Hyperspectral Imaging of a Shale Core, Horn River Basin, Western Canada:** N. B. Harris, B. Rivard, J. Feng, A. Moghadam
- **Hyperspectral Core Imaging and Machine-Learning: Identifying Facies Variability Across Multiple Unconventional Shale and Carbonate Wells:** B. Hollon, L. C. Fonteneau, B. A. Martini
- **Convolutional Neural Networks for Semantic Segmentation of Micro-Pores in SEM Based Images of Shales:** K. Ikeda, E. J. Goldfarb, N. Tisato
- **Hyperspectral Imaging of the Leonardian Third Bone Spring Shale, Collier 1201 Core, Delaware Basin: Application and Results:** T. H. Kosanke, R. G. Loucks, T. E. Larson, J. Greene, P. Linton
- **Characterizing Fluvial Architecture Using UAV-Based Photogrammetry and Outcrop-Based Modeling: Implications for Reservoir Performance, Southwestern Piceance Basin, Colorado:** M. J. Pranter, S. A. Clark, K. D. Lewis, J. J. Tellez, Z. A. Reza, R. D. Cole



- **Long-Wave Infrared Core Imaging for Oil and Gas Applications:** P. Linton, D. Browning*, T. H. Kosanke, J. Greene
- **Automated Grain Tracing and Point Counting Using Machine Learning:** D. Tang, K. T. Spikes, K. L. Milliken
- **Application of Multiple Hyperspectral Imaging Tools to the Examination of Submillimeter Variability in Geochemical Reference Materials From Major USA Shale Plays:** J. E. Birdwell, C. Draves, G. Kemeny, S. Whaley, S. A. Wilson

WEDNESDAY AFTERNOON ORAL SESSIONS

Theme 10: Financing

Co-Chairs: L. T. Billingsley and A. Sandlin

- **The Development of an Entrepreneur: From a Dream to a Reality:** D. Stoneburner
- **Criteria for Choosing Partner Teams: Private Equity's Perspective:** E. C. Nielsen
- **Evaluating Private Equity Companies:** D. G. Burdick
- **Building a Private Equity Company: Steps, Dos, and Don'ts:** R. D. Fritz
- **Expanding the Southern Delaware Basin Core Through Subsurface Understanding and Engineering Execution:** M. Hiduke
- **Minerals and Royalties: Geos Can Too:** K. L. Luchtel Ferguson
- **Non-Operated Underwriting: Steps to Successful Evaluation:** A. Willbern
- **Funding Your Projects With International Investors: How, When, Where:** S. A. Tedesco
- **Opportunities to Build a Company From a Larger Company's Divestitures: How It Works:** S. A. Ladner

Theme 5: Advances in Unconventional Reservoir Characterization III: Predictive Technologies

Co-Chairs: B. C. Riley and D. L. Cannon

- **Visualizing Depletion and Depletion-Induced Stress Changes in Unconventional Reservoirs:** M. D. Zoback, L. Jin
- **Machine Learning for Rapid Lithotype Classification From Multi-Log Suites to Assist Interpretation and Property Modeling:** W. Bashore
- **A New Approach to Refine and Quality Control Correlations in Shale and Siltstone Formations Based on Principal Component Analysis of XRF Data:** J. D. Chatellier, T. Euzen, A. Cheema
- **From Unconventional Reservoir Characterization, 3-D Seismic Multi-Attribute Analysis and Machine Learning Guided Geocellular Modeling to Well Performance (EUR) Simulation: Woodford Shale Case Study in North of Oklahoma, USA:** E. J. Torres Parada, S. Sinha, L. E. Infante-Paez, R. M. Slatt, K. J. Marfurt
- **Diagnostics and Uncertainty Characterization of Tight Liquid Production With Phase Behavior: Insights From Case Study in the Delaware Basin:** C. Varady, J. Pantano, D. A. McVay
- **Probabilistic Approach for Estimating Reservoir Quality and Calculating Water Saturation: Montney Formation, Western Canada:** N. Vaisblat, E. V. Eslinger, N. B. Harris
- **Load Recovery in Hydraulic Fracturing: Insights Into Fracture Surface Area:** A. Moghadam, N. Vaisblat, N. B. Harris, R. Chalaturnyk
- **Unraveling the Source and Dynamics of Produced Water From Hydraulically Fractured Middle Bakken and Three Forks Wells in the Williston Basin, North Dakota Using Novel Water Geochemical Methods:** S. Wright, D. Pantano, D. Franks, M. H. Kloska, J. M. Wolters
- **Unconventional Development and Production Geochemistry – Oil, Natural Gas and Water Geochemical Data Provide Evaluation Workflows Through the Lifecycle of a Well:** M. P. Dolan, B. C. Burke, P. Travers, S. Hodgetts

TECHNICAL PROGRAM WEDNESDAY

Theme 1: Innovation and Technology in Biostratigraphy for Challenging Times

Co-Chairs: *M. Bolivar, I. Prince, and M. Lorente*

- **The Role of Biostratigraphy and Biochronology in Constraining Sequence Stratigraphic Interpretation:** M. Aubry
- **Orbital Forcing Cyclostratigraphy of Miocene Formation in the South of Albert Rift, Uganda:** W. Xu, Y. Zhang, L. Fang, L. Song
- **Review of the Gulf of Mexico Neogene Astronomically-Tuned Biostratigraphic Time Scale and Its Potential Applications to Enhanced Basin Description and Constraint of Climatic Events at the Level of Cyclostratigraphy (Eccentricity):** E. Browning, J. Bergen, S. Truax III, E. deKaenel, S. Blair, J. Lundquist, T. Boesiger, M. Bolivar, K. Clark
- **Integrated Work Flow for Stratigraphic, Paleoclimate, Provenance Analysis And Prediction (Gulf of Mexico):** E. Platon, D. Buechmann, J. Vinnels, L. Yu, J. Kalinec, P. Cornick, N. Campion
- **A Sequence Stratigraphic Framework for the Wilcox Group, Gulf of Mexico:** P. Cornick, N. Campion, I. Prince
- **Generating Well-Constrained Chronostratigraphic Age Models: Case Study From the Late Paleocene Through Middle Eocene When Major Carbon Cycle Changes Took Place:** B. S. Slotnick, G. R. Dickens, C. Hollis, J. Crampton, P. Strong, E. Dallanave, C. Agnini, J. Zachos
- **Improving Global Stratigraphic Resolution and Timescales for the Late Cretaceous: Carbon Isotope Chemostratigraphy and Integration With Biostratigraphy, Geochronology, and Orbital Tuning:** I. Jarvis
- **Foraminifera and Geochemistry to Solve Stratigraphic Problems, Sea Level Change, and Water Mass History: Mesozoic Case Studies:** R. M. Leckie, A. Alibrahim, R. Bryant, S. Dameron, K. Elderbak, C. M. Lowery
- **Temporal Constraints on Submarine Slope Channel System Evolution, Late Cretaceous Nanaimo Group, British Columbia, Canada:** R. G. Englert, S. M. Hubbard, W. A. Matthews, D. Coutts, H. Bain, J. A. Covault
- **Nannofossil Paleoeological Indices: Implications for Reservoir Characterization, Petroleum Systems and Sequence Stratigraphy:** A. Avery, R. D. Weber

Theme 4: Characterizing Brittle Deformation and Its Impact on Reservoirs

Co-Chairs: *T. L. Davis and E. S. Petrie*

- **What Drives the Formation of Natural Fractures in Unconventional Reservoirs?:** P. Eichhubl, J. F. Gale, S. E. Laubach, A. Fall, E. Ukar
- **Opening-Mode Fracturing and Cementation Timing in the Barnett Shale, Delaware Basin, West Texas:** J. F. Gale, A. Fall, W. A. Ali, S. E. Laubach, P. Eichhubl, R. Bodnar
- **Which Fault Matters: Evaluation of Reservoir Compartmentalization by Integration of Borehole Image and Real-Time Isotope Data $\delta^{13}C_1$:** N. Ha, C. Murlidhar, A. Brem, V. Vevakanandan, T. Zhang
- **Relationship Between Shortening in the Zagros Fold, Thrust Belt, and Natural Fracture Orientation: A Case Study From Kurdistan Region of Iraq:** S. Banerjee, A. E. Whitaker, K. Kelsch, D. F. Goff
- **Innovative Workflow for Fracture Characterization and Its Utilization in Development of Naturally Fractured Carbonate Reservoirs: A Kuwait Case Study:** C. Pattnaik, V. Kidambi, S. R. Narhari, N. Al-Ajmi, M. Al-Dousiri
- **Fracture or Band? – A Transitional Type of Deformation Feature With Surprising Flow Effects:** H. Lewis, G. D. Couples, J. Buckman, Z. Jiang
- **Sealing or Breaching? Predicting Seal Failure Mechanisms Across a Sedimentary Basin: An Exercise in the Caswell Sub-Basin:** K. Tsutsui, K. Nifuku, Y. Totake
- **Fractured Reservoir Analogs: From Virtual Outcrops to Discrete Fracture Models:** R. R. Jones, J. Long, S. Daniels
- **Stress Field and Fracture Analysis of Paleocene Rock Unit Using Borehole Image Data and 3-D Seismic Interpretation of Kohat Foreland Basin, Pakistan:** R. Inam, M. Khan, M. Zafar, M. Miraj
- **A New DFM Dynamic Modeling Workflow Through a Non-Intrusive EDFM Method to Quickly Calibrate Fracture Model With Production Data: Practical Application on a Granite Reservoir Case:** X. Li, C. Lei*, J. Miao, R. Wang, F. Medellin, F. Xu, W. Yu, K. Sepehrnoori



Theme 9: New Global Exploration and Play Concepts

Chair: A. Scardina

- **Tectonostratigraphy of The Frontier Basins of the Central and Eastern Gulf of Mexico:** R. P. Pascoe, P. Nuttall
- **Foz do Amazonas and Pará-Maranhão Ready to Replicate Guyana Success:** P. V. Zalan, N. Hodgson, M. Saunders
- **The History and Areal Distribution of Exploration Drilling Targets Categorized by Play Type, North Slope and Offshore Arctic Alaska:** L. S. Gregersen, G. A. Brown
- **Geological and Petroleum Systems Framework of the ANWR Coastal Plain (Arctic National Wildlife Refuge 1002 Area):** D. W. Houseknecht
- **Heavy Minerals and U-Pb Zircon Ages of Upper Jurassic Reservoirs in the Flemish Pass and Orphan Frontier Basins, Offshore Newfoundland:** P. Sylvester, A. Souders
- **Deep-Water Northern Argentina—A New Frontier:** S. DeVito
- **Defining New Exploration Play Potential in the Offshore Sirt Basin and Cyrenaica Margin, Libya, Using Mega-Regional 2-D Seismic Data:** L. Fullarton, K. McDermott, E. Gillbard, P. Bellingham
- **Covenant Oil Field in the Central Utah Thrust Belt—What Has Been Learned in the 15 Years Since the Discovery:** T. C. Chidsey, D. A. Sprinkel, B. J. Kowallis, H. H. Doelling, G. Wanders Waanders
- **Exploration of the Carson, Bonniton, and Salar Basins – An Integrated Seep Hunting and Geochemical Sampling Approach Reduces Uncertainty and Increases Scientific Knowledge in Frontier Basins:** J. R. Grenader, J. J. Gharib, R. Wright
- **Integrating Remote Sensing and Field Data for Geothermal Energy Exploration in the Gulf of Suez, Egypt:** M. A. Noweir, A. S. Fahil, E. M. Ghoneim, A. A. Masoud

Theme 8: The Digital Transformation in the Geosciences

Co-Chairs: L. E. Stright, J. Deck, and A. Hosford Scheirer

- **An IIoT Platform for Agile Development and Deployment of Data-Driven Solutions in E&P:** T. Wen
- **Challenges and Solution to AI Application in E&P Decision-Making:** S. Sun, J. Faroppa, S. Wu
- **Efficient Access to Relevant Knowledge Extracted From Geoscience Literature Dedicated to Petroleum Basin Exploration by Using IBM Watson:** X. Guichet, N. Dubos-Sallée, M. Cacas-Stentz, D. Rahon, V. Martinez
- **Next-Generation Interpretation Workflows:** S. Vallabhaneni, Y. Mao, A. Dev, S. Priyadarshy
- **Automatic Interpretation in Structurally Complex Seismic Volumes:** A. Bugge, J. Lie, J. Faleide, L. Vynnytska, S. Clark
- **Automated Interpretation of Depositional Environments Using Measured Stratigraphic Sections and Machine-Learning Models:** Z. R. Jobe, A. Downard, T. P. Martin, R. Meyer
- **Towards a Basin-Scale Lithofacies Model – An Integrated Machine Learning Approach Using Well Logs and Core for the Permian Basin:** D. Ooi, M. Ashby, C. Noll, L. Moraes, D. Hayes, I. Tobar
- **Release the APE: A Novel Approach to Produce Estimated Well Logs on Horizontal Wells and Improve Multivariate Predictive Models:** P. Ruttly, C. W. Grant
- **Integrated Production and Subsurface Machine Learning Model for Predicting Hydrocarbon Recovery in the Bakken:** K. Sathaye, J. Ramey, J. Wan
- **Facies Analysis Using Machine Learning Techniques With Logs and Core Data: An Application to the Johan Castberg Field-Norway:** M. Serreli

TECHNICAL PROGRAM WEDNESDAY

Theme 1: Diagenesis and Rock Property Trends in Siliciclastics

Co-Chairs: *I. Ball, J. S. Hearon, and E. Hernandez*

- **Assessing HPHT Sandstone Reservoir Quality: Identifying the Reality:** D. Charlaftis, S. J. Jones, P. Dyer, C. Greenwell, S. Acikalin, M. J. Osborne
- **Integrating Basin and Reservoir Quality Modeling for Improved Prediction of Porosity and Permeability in the Deep-Water Wilcox Formation, Gulf of Mexico, USA:** J. Hearon, I. Ball, T. S. Szwarc
- **How is Detrital Clay Content Distributed in Shallow-Deep Marine Settings? Detailed Insights From Two Highly Active Modern Analogs:** C. McGhee, S. Acikalin, R. Worden, J. Griffiths, L. Wooldridge, J. Utley, A. Hendry, M. Clare, G. Lintern, P. Talling
- **The Distribution of Chlorite-Precursor Phases in Cores Through a Modern Tidal Bar: Towards Prediction of Chlorite in Reservoir Sandstones:** R. H. Worden, D. Muhammed, N. Simon, I. Verhagen, J. Griffiths, L. J. Wooldridge, J. E. Utley, C. McGhee, S. Acikali
- **Distinct Petrographic Changes Across the Triassic-Jurassic Boundary in the Southwestern Barents Sea – Implications for Predicting Reservoir Quality:** L. Line, H. Hellevang, J. S. Jahren
- **Dolomite Cementation as Prime Control of Reservoir Quality in the Permian Rotliegend Sandstones, Offshore The Netherlands (Block K6) in Relation With Mudstone/Sandstone Ratio:** J. Girard, J. M. Miocic
- **Diagenesis of Sandstones Surrounding the Gypsum Valley Salt Diapir, Paradox Basin, Colorado: An Example From the Jurassic Fluvial Salt Wash Member of the Morrison Formation:** C. H. Bailey, R. Langford, K. A. Giles
- **Quartz Cement in Mudrocks: Review of Occurrence and Habit in 18 Mudrock Units:** K. L. Milliken
- **Compositional Variation in Modern Estuarine Sands: Predicting Major Controls on Sandstone Reservoir Quality:** R. H. Worden, J. Griffiths, L. J. Wooldridge, J. E. Utley, R. A. Duller
- **Phyllosilicate Diagenesis in Mississippian Sandstones of the Michigan Basin:** B. J. Ares, M. A. Velbel

Theme 7: Near the Well and Beyond: Petrophysics, Rock Physics, and Hydraulic Fractures

Chair: *J. Herwanger*

- **Estimation Model of Permeability for Tight Sandstone Based on NMR T2 Centralized Distribution Method:** C. Gang, F. Yiren, C. Gang
- **A New Method for Determining Paleocurrent Direction Using Imaging Log:** P. Zhang, J. Sun
- **Experimental Investigation on the Effect of Wettability on Rock-Electricity Response in Sandstone Reservoirs:** Y. Han, C. Zhou, C. Li
- **Rock Physics Analysis and 3-D Seismic Interpretation: Examples From the Mannville Deep-Basin Alberta:** C. Coulombe
- **Inference of Organic Carbon Content of Shale From Zoeppritz PP-AVO Inversion: Case Study of Avalon Shale, Delaware Basin:** U. Lim, N. Kabir, R. Gibson
- **A New Workflow to Upscale and Propagate Saturation-Dependent Petrophysical Properties From Wireline Logs to 3-D Geocellular Models:** A. A. Curtis, E. Eslinger, S. Nookala
- **Study of the Sand Dunes in the Early Jurassic Nugget Formation in the Moxa Arch of Wyoming Using Seismic Attributes and Petrophysical Modeling:** D. Agrawal, S. Verma, S. Mallick
- **Hydraulic Fracture Monitoring Using a Downhole Sliding Array: An Innovative Single-Well Solution:** J. Le Calvez, N. Fundytus, A. Martinez
- **Mapping Rock-Property Changes and Fluid Migration During Hydraulic Fracturing Using FWI of Microseismic Data:** J. Behura
- **Paleokarst Reservoir Seismic Facies Classification Using Frequency Spectral Decomposition, Machine Learning and Electrofacies Constrained Approach:** F. Tian, Q. Di, Z. Wang, S. Li, Y. Lv, X. Shan, C. Shen, B. Guan, X. Liu, X. Wang

A photograph of a steep, layered rock cliff face, likely a desert canyon wall. The rock shows distinct horizontal and slightly tilted sedimentary layers. Sparse desert vegetation, including tall saguaros and smaller cacti, is scattered across the cliff face. At the bottom center, a person wearing a red shirt and a white cap is standing on a rocky outcrop, providing a sense of scale to the massive rock formation. The sky is a clear, deep blue.

FIELD TRIP 01

**Slope and Deep Water Mixed
Carbonate-Siliciclastic Architectural
Elements of the Delaware Basin: A
Core and Field Workshop (SEPM)**
For more information see page 90





Short Courses & Field Trips

SHORT COURSES

Pre-Convention Short Courses

Post-Convention Short Courses

FIELD TRIPS

Pre-Convention Field Trips

Post-Convention Field Trips

SHORT COURSES AT A GLANCE

PRE-CONVENTION	TITLE	INSTRUCTOR(S)
1	Deep-Water Depositional Environments: Processes and Products (SEPM)	Zoltan Sylvester, David Mohrig, Wonsuck Kim (University of Texas, Austin, Texas), Julian Clark (Equinor, Houston, Texas)
2	Advances in Representing Geologic Heterogeneity in Reservoir Models (SEPM)	Jake Covault, Michael Pyrcz (UT-Austin, Austin, Texas) and Richard Sech (Anadarko, The Woodland, Texas)
3	Petrography of Mudrock Hydrocarbon Reservoirs (RMAG)	Lyn Canter (Luween LLC, Denver, Colorado), David Hull (Devon Energy, Oklahoma City, Oklahoma), Joe Macquaker (ExxonMobil, Houston, Texas), Kitty Milliken (BEG, Austin, Texas) and Terri Olson (Digital Rock Petrophysics, Denver, Colorado)
4	Advanced Analytics - Machine Learning 101 (PROWESS)	Sarah Coffman (ConocoPhillips, Houston, Texas)
5	Integrated Geologic, Seismic, and Reservoir Engineering Characterization for Dual-Media Simulation in Conventional and Unconventional Fractured Reservoirs (AAPG/PSGD)	Chris Zahm (Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas), Reinaldo Michelena (iReservoir, Littleton, Colorado) and James Gilman (iReservoir, Littleton, Colorado)
6	Sequence Stratigraphy for Graduate Students (SEPM)	Morgan Sullivan (Chevron, Houston, Texas) and Art Donovan (Texas A&M, Houston, Texas)
7	Essentials of Unconventional Play Based Exploration (EMD)	P. Jeffrey Brown (Rose and Associates, Santa Barbara, California) and Creties Jenkins (Rose and Associates, Santa Barbara, California)
8	Exploration Seismology from Regional Analysis to Initial Field Development using a Case Study (AAPG)	Fred W. Schroeder (Consultant, Houston, Texas)
9	Deltas: Processes, Stratigraphy, and Reservoirs – Core Workshop (SEPM)	John Snedden (University of Texas, Austin, Texas), Rob Wellner (Exxonmobil, Houston, Texas) and John Suter (ConocoPhillips, Houston, Texas)
10	Applications of Organic Petrography in the North American Shale Petroleum Systems (EMD)	Paul Hackley (U.S. Geological Survey, Reston, Virginia) and Brian Cardott (Oklahoma Geological Survey, Norman, Oklahoma)
11	Improving Modeling and Predicting Reservoir Behavior (AAPG)	Ehsan Naeini (IkonScience, Houston, Texas) and Graziella Caputo (Datavedik, Houston, Texas)
12	Integrated Approaches in Provenance – Tools and Recent Advancements Applied to Exploration (SEPM)	Angela Hessler, (Deep Time Institute, Austin, Texas) Margo Odum, Cullen Kortyna, Danny Stockli (University of Texas, Austin, Texas), and Andrea Fildani (Equinor, Houston, Texas)
13	Essentials for Understanding Unconventional Mudrock Plays (SEPM)	Robert Loucks, Stephen Ruppel (University of Texas, Austin, Texas), and others
14	Advanced Geochemical Methods (SEPM)	J. M. (Mike) Moldowan (Biomarker Technologies, Rohnert Park, California) and Jeremy E. Dahl (Stanford University, Stanford, California)
POST-CONVENTION	TITLE	INSTRUCTOR(S)
15	Introduction to Data Science and Machine Learning in the Geosciences (SEPM)	Didi Ooi (Anadarko, Houston, Texas) and Michael Pyrcz (University of Texas, Austin, Texas)



(For detailed information visit ACE.AAPG.org)

DATE(S) / TIME(S)	FEES	LOCATION
Friday-Saturday, 17-18 May 8:00 am-5:00 pm	Professionals \$640 Students \$150	University of Texas - J.J. Pickle Camput, North Austin, Texas
Saturday, 18 May 8:00 am-5:00 pm	Professionals \$400 Students \$100	Marriott Riverwalk
Saturday, 18 May 8:00 am-5:00 pm	Professionals \$375 Students \$200	Henry B. Gonzalez Convention Center
Saturday, 18 May 1:00 pm-5:00 pm	Professionals \$100 Students \$50	Grand Hyatt San Antonio
Saturday-Sunday, 18-19 May 8:00 am-5:00 pm	Professionals \$895 Students \$200	Henry B. Gonzalez Convention Center
Saturday-Sunday, 18-19 May 8:00 am-5:00 pm	Students Only \$50	Marriott Riverwalk
Saturday-Sunday, 18-19 May 8:00 am-5:00 pm	Professionals \$995 Students \$200	Henry B. Gonzalez Convention Center
Saturday-Sunday, 18-19 May 8:00 am-5:00 pm	Professionals \$995 Students \$200	Henry B. Gonzalez Convention Center
Saturday-Sunday, 18-19 May 8:00 am-5:00 pm	Professionals \$700 Students \$200	Marriott Riverwalk
Sunday, 19 May 8:00 am-5:00 pm	Professionals \$795 Students \$175	Henry B. Gonzalez Convention Center
Sunday, 19 May 8:00 am-5:00 pm	Professionals \$395 Students \$150	Henry B. Gonzalez Convention Center
Sunday, 19 May 8:00 am-5:00 pm	Professionals \$400 Students \$100	Marriott Riverwalk
Sunday, 19 May 8:00 am-5:00 pm	Professionals \$250 Students \$100	Marriott Riverwalk
Sunday, 19 May 9:00 am-4:00 pm	Professionals \$400 Students \$100	Marriott Riverwalk

DATE(S) / TIME(S)	FEES	LOCATION
Thursday, 23 May 8:00 am-5:00 pm	Professionals \$400 Students \$100	Marriott Riverwalk



FIELD TRIPS AT A GLANCE

PRE-CONVENTION	TITLE	LEADER(S)	DATE(S) / TIME(S)
1	Slope and Deep-Water Mixed Carbonate-Siliciclastic Architectural Elements of the Delaware Basin: A Core and Field Workshop (SEPM)	Xavier Janson (Bureau of Economic Geology, The University of Texas at Austin); Greg Hurd (Chevron); Zane Jobe (Colorado School of Mines CoRE)	Wednesday, 15 May, 9:00 am–Saturday, 18 May, 7:00 pm *Trip starts in Midland, Texas and ends in El Paso, Texas
2	Carboniferous Strata and Reservoir Analogs of the Sacramento Mountains, New Mexico (SEPM)	Steve Bachtel (AIM Geanalytics); Ben Rendall (The University of Texas at Austin)	Thursday, 16 May, 7:30 am–Saturday, 18 May, 6:30 pm *Trip starts and ends in El Paso, Texas
3	Mechanical Stratigraphy, Faulting, and Fracturing in Carbonates and Shale (AAPG/PSGD)	David A. Ferrill and Kevin Smart (Southwest Research Institute)	Thursday, 16 May, 8:00 am–Friday, 17 May 7:00 pm
4	Fluvial and Coastal Clastic Sedimentology and Ichology in Modern Environments and Core (SEPM)	Anton Wroblewski (ConocoPhillips and University of Utah); Stephen Hasiotis (University of Kansas); Peter Flaig (Bureau of Economic Geology, The University of Texas at Austin)	Friday, 17 May, 7:30 am–Saturday, 18 May, 6:30 pm
5	Late Cretaceous Submarine Volcanism in Central and South Texas: Loci of Carbonate Sedimentation and Hydrocarbon Accumulation (AGS/STGS)	S. Christopher Caran (Christopher Caran Consulting); Thomas E. Ewing (Frontera Exploration)	Friday, 17 May, 8:00 am–Saturday, 18 May, 5:00 pm
6	Oceanic Anoxic Events 1A&B in Central Texas (SEPM)	Charles Kerans and Esben Pedersen (University of Texas); Rob Forkner (Equinor); Toti Larson and Xun Sun (Bureau of Economic Geology, The University of Texas at Austin)	Saturday, 18 May, 8:00 am–7:00 pm *Trip starts and ends in Austin, Texas
7	Effects of the K-Pg Impact in Outcrops and Cores: Brazil River and IODP Core Repository (SEPM)	Sean Gulick, Chris Lowery, and Daniel Stockli (The University of Texas at Austin); Richard Denne (Texas)	Saturday, 18 May, 8:00 am–7:00 pm
8	Cave and Karst Geology at The Cave Without a Name (AAPG Young Professionals)	Tyler Quade (Windridge Oil & Gas); Lauren Redmond (EOG); Ali Sloan (Parsley Energy); and John Casiano (Abraxas Petroleum Corporation)	Saturday, 18 May, 10:00 am–5:00 pm
9	Following the Water: Recharge, Springs, and Historic Missions (STGS/AAPG)	Thomas E. Ewing (Frontera Exploration)	Sunday, 19 May, 8:00 am–4:00 pm
POST-CONVENTION	TITLE	LEADER(S)	DATE(S) / TIME(S)
10	Geologic Controls on Production From the Upper Cretaceous Eagle Ford and Austin Chalk Formations, South Texas (SEPM)	Bruce Hart (Equinor); Alexis Godet (The University of Texas at San Antonio); Mike Pope (Texas A&M)	Thursday, 23 May, 8:00 am–Friday, 24 May, 7:00 p.m
11	Geology, Frontier History, and Oenology of the Texas Hill Country (AGS/STGS)	Peter R. Rose (Rose & Associates); Thomas E. Ewing (Frontera Exploration)	Thursday, 23 May, 8:00 am–6:00 pm
12	Modern Texas Coastal Geology as Reservoir Analogs (SEPM)	Davin Wallace (University of Southern Mississippi); Julia Wellner (University of Houston)	Thursday, 23 May, 8:00 am–Friday, 24 May, 6:00 pm
13	Exploring the Origins of the Austin Chalk Cavernous Porosity: Implications for 3-D Reservoir Architecture Within Naturally Fractured Carbonate Reservoir Systems (STGS/AAPG)	Dr. George Veni (National Cave & Karst Research Institute); John Cooper (Britanco, LLC)	Thursday, 23 May, 8:30 am–6:00 pm



(For detailed information visit ACE.AAPG.org)

FEES
Professionals \$1200 / Students \$500 (limited) (single occupancy)
Professionals \$930 / Students \$510 (limited) (single occupancy)
Professionals \$400 / Students \$100 (limited) *price does not include hotel accommodations
Professionals \$645 / Students \$365 (limited) (single occupancy)
Professionals / Students \$300 (single occupancy)
Professionals \$315 / Students \$100 (limited)
Professionals \$215 / Students \$100 (limited)
Young Professionals \$50
Professionals \$150 / Students \$50 (limited)

FEES
Professionals \$715 / Students \$350 (limited) (single occupancy)
Professionals/Students \$280
Professionals \$600 / Students \$300 (limited) (single occupancy)
Professionals \$140 / Students \$50 (limited)

Important notes regarding Short Courses and Field Trips:

- Short courses and field trips are limited in size and are reserved on a first come, first served basis and must be accompanied by full payment.
- If you do not plan to attend the convention, a \$30 enrollment fee will be added to the short course and/or field trip fee upon registering. (This fee can be applied to a full-convention registration should you change your mind later.)
- A wait list is automatically created when a short course or field trip sells out. The AAPG Global Convention Department will notify you if you are on a wait list and space becomes available.
- Before purchasing non-refundable airline tickets, confirm the short course and/or field trip will take place as some may be cancelled if undersubscribed.
- Please register well before 4 April 2019 to help guarantee your spot. Short course and field trip cancellations will be considered at this time - no refunds will be accepted for cancellations after this date.
- AAPG will continue to take registrations for short courses and field trips that are not cancelled up until the they are sold out or closed.
- Field trip participants should expect an email from the Field Trip leader approximately 2-3 weeks prior with an itinerary including details of meeting points, transportation, phone numbers, hotels as well as what type of supplies and clothing is necessary.
- APG, the sponsoring organizations, field trip leaders and their employers do not maintain insurance covering illness or injury for individuals.

Students: There are a limited number of discounted registrations available for short courses and field trips. Discounted registrations are on a first come, first served basis with full payment. If a discounted space is still available, it will show up during the online registration process. If discounted spots are no longer available, you may register at the full fee; if we are able to add additional discounted spots we will refund the difference at this time.





Register & Travel

HOW TO GET AROUND

Airport Information and Transportation

Convention Center Information and
Parking

Public Transportation

Visa Information

WHERE TO STAY

Hotel Locations, Rates, and Amenities

Policies

HOW TO REGISTER

Registration Types and Rates

Ways to Register

Policies

Code of Conduct

HOW TO GET AROUND

Within a short drive from downtown San Antonio, you'll uncover quaint cities that offer educational and cultural experiences from fine arts to the rustic outdoors. Take advantage of San Antonio's close proximity to many towns and festivities that capture the diverse Texas spirit. Below you will find important information about San Antonio which can help you plan your trip or may be useful to you during your visit.

Airport Information

San Antonio International Airport (SAT)
9800 Airport Blvd.
San Antonio, Texas 78216
Phone: +1 210 207 3433
Website: www.sanantonio.gov/sat
Distance from convention center: 8.5 miles
Drive time: 10 minutes



Airport Transportation

San Antonio International Airport is located in Northern San Antonio, approximately eight miles or 15 minutes from the downtown area. Ground transportation is located curbside in front of Terminal A and B baggage claim area.

- **Taxi cabs** are available at the lower level curbside, outside of baggage claim, at Terminal A and B. Fares to San Antonio downtown areas start at U.S. \$29 per taxicab. (Up to 6 may share a cab, if both luggage and passengers fit safely.)
 - Excel Cab: +1 210 444 1111
 - National Cab: +1 210 434 4444
 - AAA Taxi Service: +1 210 599 1111
 - San Antonio Taxis: +1 210 444 2222
 - Yellow Cab Taxi: +1 210 222 2222
 - Town Car Taxi: +1 210 826 8294
- **Transportation Network Companies** – Approved rideshare services (or ride-hailing or ride-booking service companies) meet customers on the outer commercial curbside lower level Terminal A.
- **Town Car and Limousine Services** are available but must be arranged and paid in advance. For detailed information and a list of providers, visit www.sanantonio.gov/SAT/GroundTransportation/Limousine.
- **Rental Car Services** are available at San Antonio International Airport. Car rental counters are located in Terminal A. Passengers can use the courtesy phones provided in the baggage claim area of Terminal A to request shuttle transport to the car rental company of their choice after hours or can proceed to the shuttle pick up area located outside the baggage claim area.



Public Transportation

VIA Metropolitan Transit is San Antonio's public transportation agency offering service throughout the city including streetcar service within the downtown area.

Once in the downtown area, VIA's streetcar service offers stops to or near most hotels, restaurants, the convention center and many visitors' hot spots. For added convenience, VIA offers a \$4 Day Pass for purchase online and in advance of your trip. A Day Pass is good for unlimited rides on all regular bus and streetcar services for the one day indicated on the pass. The Day Pass will be activated the first time boarding the bus or streetcar. For more details, visit www.viainfo.net.



Convention Center Parking

The Henry B. González Convention Center offers several convenient near-by parking options. Rates, locations, and additional information can be found at ACE.AAPG.org.

1. Grand Hyatt Parking Garage
2. Convention Center Garage
3. Convention Center South Parking
4. Riverbend Garage
5. Tower of the Americas Parking
6. Shops at the River Center – Commerce
7. Shops at River Center – Crockett

Convention Center Information

Henry B. González Convention Center
900 E Market St.
San Antonio, Texas 78205
Phone: +1 210 207 8500
Website: www.sahbgcc.com

Visa Information

The U.S. requires the citizens of many foreign countries to obtain visas to enter the United States. If you are not a U.S. citizen and are intending to attend ACE 2019 please ensure that you obtain the correct visa to enter the country. Detailed information on the U.S. Visa Policy can be found online at the U.S. Department of State website at travel.state.gov.

Obtaining a Visa

It is your responsibility to apply for a passport, visa or any other required documents and to demonstrate to consular officials that you are properly classifiable as a visitor under United States law. You may request a letter by selecting the box either online or on the printed registration form. Letters will be sent to those that are registered and fully paid. AAPG supplies this letter for visa purposes only. All expenses involved with attending the convention are the responsibility of the attending party. If your visa application is denied and AAPG receives a copy of the denial by email (convene@AAPG.org) or fax (+1 918 560 2684) before 19 May 2019 your registration fee only will be refunded, less a \$75 processing fee.

WHERE TO STAY

Please book your rooms through the AAPG Housing Bureau. This helps AAPG meet hotel room block commitments and avoid penalties that could ultimately increase convention expenses. New hotel reservations must be booked with the Housing Bureau by **23 April 2019**. Additional details, policies, and deadlines can be found at ACE.AAPG.org.

Hotel	Address	Single/Double	Extra Person Charge	In-Room Dining	Parking *(Daily)	Guest Room Internet
Grand Hyatt San Antonio (AAPG Headquarters)	600 E. Market St. San Antonio, TX 78205	\$224	\$25	Yes	Self-Parking - \$31 per night Valet - \$43 per night	Complimentary
San Antonio Marriott Riverwalk (SEPM Headquarters)	889 E. Market St. San Antonio, TX 78205	\$217	\$20	Yes	Valet - \$43 per night	Complimentary
Hilton Palacio del Rio	200 S. Alamo St. San Antonio, TX 78205	\$219 \$244-Riverside	\$20 - \$25	Yes	Valet - \$44 per night	Complimentary

Rates

To receive the convention room rate, all hotel reservations must be made through the Housing Bureau. Hotel rates are listed above and online.

Deposits

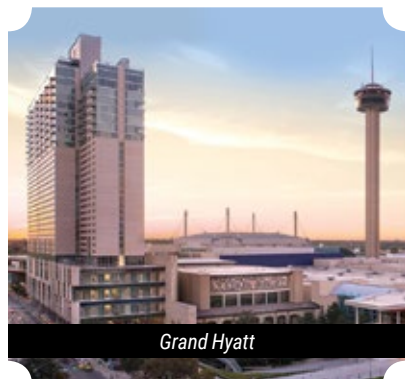
All reservations will require a credit card guarantee equal to the first night's stay, inclusive of tax, as a deposit. A valid credit card and expiration date should be provided with your room request. The hotel may cancel room reservations without notification if one night's deposit is not received prior to your scheduled arrival.

Online

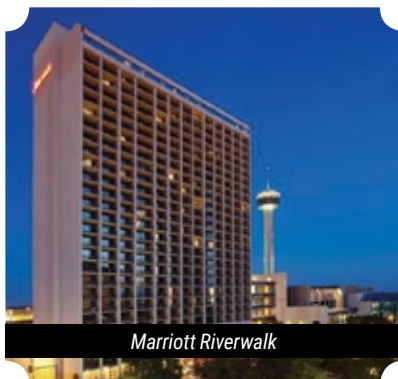
All reservations made online will require a valid credit card number and expiration date through **May 2019** to guarantee your reservation. Make reservations online at ACE.AAPG.org.

Changes/Cancellations

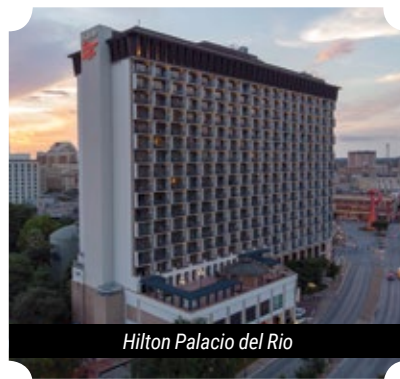
Changes and cancellations to existing reservations may be made online or by contacting the Housing Bureau prior to **23 April**. Any changes or cancellations after **26 April** must be sent directly to the hotel. Guaranteed room reservations not cancelled 72 hours prior to arrival and not used will subsequently be billed by the hotel to your credit card account.



Grand Hyatt



Marriott Riverwalk



Hilton Palacio del Rio

HOW TO REGISTER

Full Four-Day Technical Program & Exhibition	Registration Type	On or before 21 March Midnight EST	On or before 18 April Midnight EST	After 18 April Midnight EST
	Member*	\$545	\$650	\$755
	Emeritus Member**	\$325	\$378	\$445
	Join and Save	\$545 + dues	\$650 + dues	\$755 + dues
	Nonmember	\$650	\$755	\$860
	Student Member*	\$55	\$55	\$75
	Student Nonmember	\$70	\$70	\$90
	Includes: Access to the Opening Session and Awards Ceremony, Icebreaker Reception, Oral and Poster Sessions, Refreshment Breaks, End-of-Day Receptions, and Exhibition as well as the access code to the Digital Library for the Abstracts.			
One-Day Technical Program & Exhibition (Select Day)	One-Day Member*	\$355		
	One-Day Nonmember	\$420		
	Registration day: Monday, Tuesday, or Wednesday			
	Includes: Access to the Oral and Poster Sessions, Refreshment Breaks, End-of-Day Receptions, and Exhibition for the day you register as well as the access code to the Digital Library for the Abstracts. You will need to purchase a one-day Sunday Exhibition Pass in order to attend the Opening Session and Awards Ceremony and the Icebreaker Reception.			
One-Day Exhibition (Select Day)	One-Day Member*	\$100		
	One-Day Nonmember			
	Registration day: Monday, Tuesday, or Wednesday			
	Includes: Access to the Refreshment Breaks, End-of-Day Receptions, and Exhibition for the day you register. You will need to purchase a one-day Sunday Exhibition Pass in order to attend the Opening Session and Awards Ceremony and the Icebreaker Reception on Sunday.			
Guests	Guest	\$100		
	Guest of Emeritus Member**	\$50		
	Includes: Access to the Opening Session and Awards Ceremony, Icebreaker Reception, Oral and Poster Sessions, Refreshment Breaks, End-of-Day Receptions, and Exhibition. (May not be a member of any of the listed associations or a professional in the industry and must be accompanied by a convention registrant.)			
Non-Convention Attendance	Short Course/Field Trip	\$30 + cost of Short Course and/or Field trip		
	Includes: Includes: Access only to chosen Short Course or Field Trip for which you register. If you do not register for the convention and exhibition in addition to the Short Course or Field Trip, you will not receive access to any activities or events during the convention or exhibition.			

HOW TO REGISTER

*** Member Rates apply to members of the following societies:** AAPG (American Association of Petroleum Geologists), AASP (American Association of Stratigraphic Palynologists), AGS (Austin Geological Society), AWG (Association of Women Geoscientists), CPC (Circum-Pacific Council for Energy & Minerals Resources, Inc.), CSPG (Canadian Society of Petroleum Geologists), GSL (Geological Society of London), GSA (Geological Society of America), IAMG (International Association of Mathematical Geology), NABGG (National Association of Black Geologists & Geophysicists), SEG (Society of Exploration Geophysicists), SEPM (Society for Sedimentary Geology), SIPES (Society of Independent Earth Scientists), STGS (South Texas Geological Society), SPE (Society of Petroleum Engineers), SPWLA (Society of Professional Well Log Analysts), TSOP (The Society of Organic Petrology)

**** Emeritus Members must be current members of one of the above associations with 30 years of membership and be 65 years old in order to qualify.**

On-site Registration

Registration will be located at the Henry B. Gonzalez Convention Center and the Grand Hyatt San Antonio.

Friday, 17 May 1:00 pm–5:00 pm
Saturday, 18 May 9:00 am–5:00 pm
Sunday, 19 May 9:00 am–6:00 pm
Monday, 20 May 7:30 am–5:30 pm
Tuesday, 21 May 7:30 am–5:30 pm
Wednesday, 22 May 7:30 am–2:00 pm

Online

Online registration provides immediate knowledge of availability of events (short courses, field trips, luncheons etc.) as well if you are already registered for an event. If an event is not available, it will not appear on the screen or it will indicate “sold out.” Additional registration details and policies are also found on ACE.AAPG.org

By Mail

Mailing your registration will delay this process and events may sell out while your registration is in transit. To add an event after you have registered, contact registration center/TPN by email (customerservice@tpni.com). Submit only one copy of your registration form. Be cautious when submitting your registration or making changes to your current registration. Duplicate charges may occur if you send more than one copy of a registration form.

Download a registration form from the website at ACE.AAPG.org and mail the form and payment to:

AAPG Registration Center
c/o The Pulse Network (TPN)
10 Oceana Way
Norwood, MA 02062
United States

By Telephone

+1 781 688 8000
Monday–Friday, 08:00–17:00 (EST)

Cancellations/Refunds

- Cancellations can be made by following the instructions on your confirmation or by contacting the AAPG Registration Center/TPN by email (customerservice@tpni.com) or telephone by **4 April**.
- Cancellations received on or before **4 April** will be fully refunded less a \$75 processing fee. Refunds will not be issued after **4 April** or for “no shows.” You may substitute one participant for another.
- Refunds for field trips, guest tours, and/or short courses can be made until **4 April**. No refunds for field trips and/or short courses can be made after this date.

Wire Transfers

Please email (customerservice@aapg.org) for information on paying by wire transfer. If you plan on paying your registration fee by wire transfer, please allow ample time so that AAPG receives notification of the transfer prior to **30 April**. If a wire transfer is received after this date, we cannot guarantee that it will be applied to your registration record.

CODE OF CONDUCT

The American Association of Petroleum Geologists Annual Convention and Exhibition (ACE) is conducted for the benefit of its members and interested parties to advance the science of geology, promote technology, and facilitate networking and collaboration between professionals within the world's geosciences community.

AAPG values the participation of its members and guests and wants all ACE attendees to have an enjoyable and fulfilling experience. Accordingly, AAPG is dedicated to providing a harassment-free convention experience for everyone, regardless of gender, sexual orientation, disability, physical appearance, body size, race, or religion. We do not tolerate harassment of convention participants in any form. All attendees are expected to show respect and courtesy to other attendees throughout the convention and at all convention events, whether officially sponsored by AAPG or not.

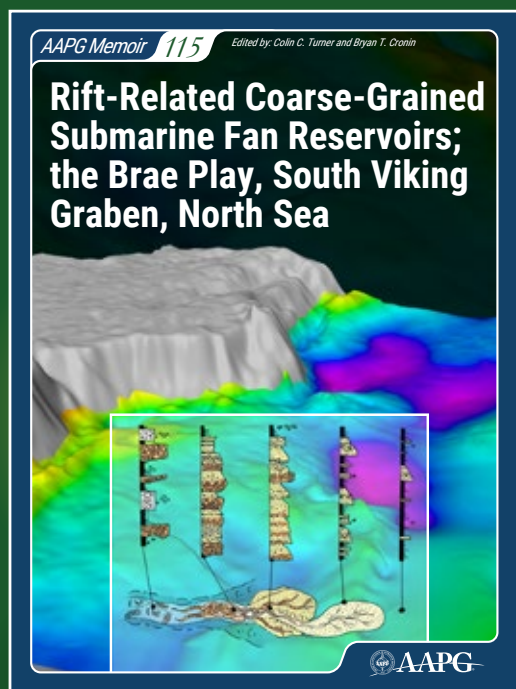
If a participant engages in behavior that violates this code of conduct, AAPG reserves the right to take any action deemed appropriate, including warning the offender(s) or expelling the offender(s) from the convention with no refund.

AAPG's complete ACE anti-harassment policy can be found at ACE.AAPG.org.

If you have any questions or concerns please notify a badged AAPG Show Management staff member or call 1 800 898 2274.

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The South Viking Graben (SVG) is a mature, prolific, hydrocarbon-producing area of the northern North Sea. Many fields produce from Upper Jurassic, deep-water, mass-flow conglomerate and sandstone reservoirs, termed the Brae Play. Deposition occurred in proximal and basin-floor submarine fan environments, mostly fed down the steep western flank of the graben footwall but with some, largely sandstone, fans being fed from the less steep eastern graben flank. Encasing mudstones form world-class source rocks.

A detailed classification scheme for coarse-grained, deep-water deposits, a review of fine-grained turbidites, and a discussion of conglomeratic megabeds are provided prior to detailed discussions of the character of Brae Play reservoir facies, the fan architectures and distribution of the fan systems, the trapping mechanisms and structural evolution of the basin, and an extensive account of the petroleum systems in the SVG. The area forms an outstanding example of hydrocarbon reservoirs within submarine fan facies in a rift environment.

This Memoir provides a comprehensive review and interpretation of the Upper Jurassic reservoirs in the SVG which will be relevant to those working in the North Sea and analogous rift basins. It will also be of considerable relevance to all those with an interest in deep-water sedimentology, particularly those involved with deep-water coarse-clastic deposits.

Author: Edited by Colin C. Turner and Bryan T. Cronin

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