



October 24-25 2019 Technical Program

Thursday AM Grand Ballroom

<https://2019.gcagshouston.com/oral-program-thursday-october-24/>

OFFSHORE GULF OF MEXICO: SUPER BASIN FOR THE FUTURE- Charles Sternbach (HGS-AAPG), Session Chair

8:35 AM Charles Sternbach (HGS-AAPG) : The Gulf of Mexico: Why This Super Basin Will Continue to Thrive Long into the Future

9:00 AM Brian Horn (ION): All Roads Lead to the Gulf of Mexico

9:25 AM John Snedden (UTIG): The Gulf of Mexico Basin Sedimentary Fill History: A Lesson in Depositional Evolution with Practical Applications

9:50 AM Break

10:20 AM Henry Pettingill (Rose and Associates): Deepwater Sands: Energizing the Globe, Past Present and Future

10:45 AM Kareemah Mohamed (IHS) The Road Ahead for US and Mexico Exploration Activity

Thursday AM Briarpark Room

ENVIRONMENTAL GEOLOGY-PROTECTING VALUABLE RESOURCES

Session Chair Doug Carlson (LSU)

8:35 AM P. Kirby, A. Donnelly (Stephens and Assoc) : Single County District Groundwater Quality Studies

9:00 AM John Nelson (WSP): Development of Deep Freshwater to Brackish Groundwater Supplies in Part of Southeast Texas

9:25 AM Doug Carlson (LSU): The Springs of Denham Springs, Louisiana: Location, History, Water Chemistry, and Source of Water

9:50 AM BREAK

10:20 AM Doug Carlson (LSU): An Overview of Water Concerns with Unconventional Oil and Gas Fields

10:45 AM Annie Robinson (SFA) Delineating Subsurface Karst Potential Using Electrical Resistivity in the Shell Mountain Region, Fort Hood Military Installation, Texas

11:10 AM Brian Rader: Can We Use the North Texas Earthquake History to Predict the Next Earthquake?

Thursday AM Ballroom FGH

OVER THE BORDER -UNDERSTANDING U.S. AND OFFSHORE MEXICO PLAYS I, Peter Mullin and Robert Erlich, Session Chairs

8:10 AM M Dyer (IHS) Mexico- Perspectives of the Energy reform, It's Interruption and Active Exploration Year

8:35 AM Edward Smith, J. Halliday (TGS UK) : Exploration History and Petroleum Plays of the Offshore Mexican Gulf: A Retrospective

9:00 AM Jim Pindell (Tectonic Analysis), D. Villagomez: Today's Pertinent Research Questions: Mexico to Trinidad

9:25 AM P. Mann, J. Kenning, Mei Liu (U of H): Restoring the Conjugate Margins of the Gulf of Mexico: Implications for Pre-, Syn-, and Post-Rift Exploration Fairways

9:50 AM Break

10:20 AM Frank Bilotti (Chevron), C. Guzofski: Structural Evolution of the Perdido Foldbelt, Mexico

10:45 Stacy Smith (Chevron), Frank Bilotti , Jiancheng Liu, Chad Holmes

Assessment of the Oligocene Play in the Northern Mexico Deepwater Trend

11:10 AM D. Van Nieuwenhuise (U of H), Steve Cossey: Recognition of Stratigraphic Surfaces and Sequences through the Integration of Geophysical and Biostratigraphic Data: An Example from the Tampico-Misantla Basin, Mexico

11:35AM Steve Cossey, Mark Bitter, Gerald Dickens: Paleo-Canyons and Contemporaneous Oil Seeps near the Paleocene/Eocene Boundary, Tampico-Misantla Basin, Eastern Mexico

Thursday AM Richmond Room

WILCOX-YEGUA-VICKSBURG ONSHORE CONVENTIONAL PLAYS,

Session chair: Tim Rynott

8:10 AM Peter Rose (Rose Associates) Neogene Evolution of Central Texas

8:35 AM Hongliu Zeng (BEG) : Sediment Dispersal Patterns and Paleoshore-Line Trajectory of Wilcox Group, South-Central Texas Coast

9:00 AM W. Ambrose (BEG), R. Loucks: Transition from Paleosols in the Exposed Cenomanian Woodbine Group into Deepwater Carbonates in the Transgressive Coniacian Lower Austin Chalk in the East Texas Field Area: An Example of a Compressed Transgression from Subaerial Processes to Deepwater Deposition

9:25 AM Osareni Ogiesoba (BEG), A. Eluwa Structural Styles of the Eocene-Jackson and Oligocene-Vicksburg Fms Within the Rio Grande and Houston Embayments, Near the San Marcos Arch, in Refugio and Calhoun Counties, South Texas, Gulf Coast

9:50 am Break

10:20 AM Colin White (Stanford), J. Snedden* (UTIG): Calibrated Seismic Stratigraphic Analysis of the Lavaca/Yoakum Canyon Complex, South Texas

10:45 AM Robert Schneider (TAMUK): Seismic Stratigraphic Visualization of the Lower Vicksburg Formation, South Texas Conventional Oil Fields: A Case Study from Central Louisiana

11:10 AM Tim Rynott (Ridge Resources) New Exploration Techniques in Low Relief, Mature, Conventional Oil Fields: A Case Study from Central Louisiana

11:35 AM G. Kinsland (U of LA- Lafayette), A. Brennan, N. Quick: Exploration Scheme for The Wilcox Fm. Central Louisiana: Detailed Structural/Environmental Mapping with Well Logs, Followed by Interpolation/Extrapolation with Surface Sourced Seismic Data

afternoon

Thursday PM Grand Ballroom

<https://2019.gcagshouston.com/oral-program-thursday-afternoon/>

GIANT FIELDS OF THE US DEEPWATER GOM - Charles Sternbach, Session Chair,

Tribute to the late D. Clint Moore.

1:35 PM Ben Slotnik (BP) Asphaltenic-Rich Tar in the subsurface: Case Study from Reservoir Overburden in a Giant Subsalt Oil Field -Mad Dog, Gulf of Mexico

2:00 PM James Saxton (BP) : Mad Dog- Waking a Giant

2:25 PM J.P. Gestel, C Steiner and T. Dore (BP) : Atlantis- Finding a Field Within a Field (BP)

2:50 PM Break

3:20 PM Ted Godo (Murphy, retired): The Smackover-Norphlet Petroleum System in the Deepwater Gulf of Mexico: Oil fields, Oil Shows and Dry Holes

4:10 PM Julie Wilson (WoodMac): Drivers for Creating Value from Deepwater Exploration

Thursday PM Briarpark Room

BREAKTHROUGHS IN DATA ANALYTICS AND WORKSTATION SEISMIC INTERPRETATION,

Andrew Silver Session Chair

1:10 PM Matt Boyce (Epoch): Cluster Analysis in Petrophysics for Unconventionals, and its Influence on Volumetrics

1:35 PM Andrew Silver (Adret): An Application of Hierarchical Clustering in Categorizing Producing Areas and Mitigating Spatial Autocorrelation Issues in Predictive Analysis for the Eagle Ford Shale

2:00 PM Deborah Sacrey (Auburn Energy): How Machine Learning Can Aid Seismic Interpretation and Find Oil and Gas

2:25 PM Coorte Voorhies: Reservoir Delineation and Amplitude Attribute Analysis Utilizing Visualization and SGG Processing Software, (Or How to Find The Exact Reservoir To Drill In An Anastomosing Channel Sand System)

2:50 PM Break

3:20 PM Jim Brenneke (SCA): Adapting Traditional Reservoir Volumetric Methods to the Workstation

3:45 PM Kris Rimalia (DGBES): Interpretation of Hydrocarbon Migration Pathways Using Latest Developments in Machine Learning - Green Canyon, Gulf of Mexico

4:10 PM Jakob Heller*, Sam Green (IKON) 3D PP and Geomechanics: Work Smarter and Faster Integrating Geoscience with Machine Learning

Thursday PM Ballroom FGH

OVER THE BORDER -UNDERSTANDING U.S. AND OFFSHORE MEXICO PLAYS II, Peter Mullin and Robert Erlich, Session Chairs

1:35 PM David Kosmitis (Talos) : Zama Discovery in Offshore Mexico

2:00 PM C. Luysterburg (Shell), V. Brito: Evolution of Sediment Fairways Along the Western Margin of the Saline Basin Deepwater Campeche

2:25 PM Jack Kenning (U of H), P. Mann: Structural and Stratigraphic Controls on Mesozoic, Source Rock Maturity and Hydrocarbon, Play Prospectively of the Deepwater Yucatan and Campeche margins, Southern Gulf of Mexico

2:50 PM Break

3:20 PM Antara Goswami (ION), J. Pindell: Regional Structure and Petroleum Potential of the North Panama Deformed Belt

3:45 PM Lesli Wood (C Mines): The Role of Offshore Strike-Slip Tectonics in Sediment Partitioning and the Morphology of the Paleo-Orinoco in the North Coast Marine Basins of Trinidad and Tobago

4:10 PM Paul Mann (U of H), J. Sanchez, Luis C. Carvajal, L. Torrado, B. Ott: Cretaceous to Recent Tectonic History and Controls on Hydrocarbons in the Western Caribbean Sea

4:35 PM David King (Auburn), H. Zou, K. Gill, F. Smith: Detrital Zircons from the Margaret Creek Formation of Belize: Provenance of the Basal Red Beds of the Corozal Basin

Thursday PM Richmond Room

EAGLE FORD- HAYNESVILLE-AUSTIN CHALK UNCONVENTIONAL PLAYS

Session Chair: Wayne Camp (Oxy)

1:10 PM Katie Smye (BEG): Variability of Geologic Properties in Shale Gas and Tight Oil Plays

1:35 PM Robert Loucks (BEG): Insights into Early Reservoir Development of the Upper Cretaceous Eagle Ford Group and Pepper Shale from Observations of the USGS Gulf Coast #1 West Woodway Low-R_o Research Core in McLennan County, East Texas

2:00 PM Justin Birdwell (USGS): Estimating Overburden Erosion in Southwest Texas using Production Data from the Eagle Ford Shale

2:25 PM Wayne Camp (Oxy): A New Reservoir Quality Prediction Model for Unconventional Shale Reservoirs

2:50 PM Break

3:20 PM Matt Boyce (Epoch): Using Wireline Spectral Gamma to Infer Depositional Environments in Unconventional Resources

3:45 PM Doug Carlson (LSU): Trends and Values for Hydraulic Fracturing for Unconventional Plays Compared to Haynesville

4:10 PM Justin Birdwell (USGS): Geochemical Characterization of Immature Lower Eagle Ford Shale in Drill Cores from Southwest and Central Texas

Friday October 25

Friday AM Grand Ballroom

<https://2019.gcagshouston.com/oral-program-friday-morning/>

OIL AND GAS BUSINESS PANEL DISCUSSION- Bob Wiener, Session Chair

Deal Trends, Investment Outlooks, and Money Flow

8:35 AM Introduction, Bob Wiener

8:40-9:50 Panelists Steve Brachman, Sr.VP, Wapiti Energy LLC; Igor Effimoff, E&P Consulting Advisor-FAR Ltd; Cody Rice, Research Director- Lower 48 Team; Wood Mackenzie; Geoffrey Davis, Managing Director-Morgan Stanley; Michael Racusin, Energy Funders LLC, CIO.

9:50 Break

10:20-10:45 More Panel Discussion- Audience Participation

Friday AM Briarpark Room

INTEGRATION OF SEISMIC PROCESSING, GRAVITY AND MAGNETICS GOM,

Sharon Cornelius (U of H), Session Chair

8:10 AM Kyle Reuber (ION): Initial Observations of New and Reprocessed Caribbean Seismic Data: Character of the Crust Revealed

8:35 AM Bill Beck (PGS): Imaging of an Enigmatic Raft in a Shallow Roho System in The Northern Gulf Of Mexico

9:00 AM Matheus Pila (PGS) Revealing Salt and Sub-Salt Geometries in The Gulf of Mexico Flex Trend Through Rejuvenation of Legacy Data with Advanced Imaging Technologies

9:25 AM Hermann Lebit (PGS): The Port Isabel Fold Belt Driven by Neogene Gravitational Spreading: East Breaks, Western Gulf of Mexico

9:50 AM Break

10:20 AM Sharon Cornelius (U of H) Relationship Between Geothermal and Geopressure Gradients in The Deepwater Gulf of Mexico: Garden Banks, Green Canyon, Keathley Canyon, and Walker Ridge

10:45 AM Md. Saiful Islam (College of Engineering, Dhofar): A Pragmatic Way of Incorporating Sub-Seismic Fault Zone Structures into a Production Simulation Model

11:10 AM Randy Keller (OU): Gravity and Magnetic Mapping and Modeling of The Crustal and Uppermost Mantle Across Gulf of Mexico From Coast to Coast (N-S And E-W)

11:35 AM Jason Kegel, Cian O'Reilly (TGS): Crustal Interpretation by Gravity, Magnetism and Seismic Data Over the Gulf of Mexico

Friday AM Ballroom FGH

AFTER HARVEY FLOODING- WHAT HAVE WE LEARNED? , Cheryl Desforges, Session Chair

8:35 AM Robert Traylor (Consultant): Basin Tectonics and Harvey Flooding

9:00 AM Davis Tolman (Tolman Interests): Visualizing Houston's Drainage Systems – An Intuitive Assessment of Flood Risk

9:25 AM Sam Brody (TAMU): The Flooded City: Adapting to the New Reality of Extreme Water Events in TX

9:50 AM Break

10:20 AM J. Neilsen-Gammon (TAMU): Expected Frequency of Extreme Rain: Before and After Harvey

10:45 AM William Dupre (U of H): Geologic Controls on River Morphology and Flooding in the SE Texas Coastal Region

11:10 AM William Sager (U of H): Sonar Mapping of Hurricane Harvey Effects on Bolivar Roads Seafloor

Friday AM Richmond Room

GLOBAL DEEPWATER RESERVOIRS I , Session Chairs: Jon Rotzien , Tim Nicholson (Kosmos) , Lothar Schulte, Philomena Y. Gan

8:05 AM Al-Ramadan, D. Cantrell* (KFUPM Saudi Arabia) : Impact of Basin Architecture on Diagenesis and Dolomitization in a Fault-Bounded Carbonate Platform: Outcrop Analogue of a Pre-Salt Carbonate Reservoir, Red Sea Rift, NW Saudi Arabia

8:35 AM Alex Hairabian (KFUPM Saudi Arabia): Models and Parameters Controlling Carbonate Slopes and Associated Gravity Flow Deposits

9:00 AM Henry Pettingill (Rose Associates): DHIs and Flat spots: the Miocene Levant Basin Within a Global Perspective

9:25 AM Johan LeGoff (KFUPM Saudi Arabia): Internal Geometry of Mass Transport Deposits (MTDs) in modern and Ancient Carbonate Systems

9:50 AM Break

10:20 AM Mason Dykstra (Oxy): Using Machine Learning to Interpret Seismic Like A Human

10:45 AM Hoang Nguyen (Neptune Energy): Turbidite Systems in The Northern North Sea: Applying Geological Process Modeling

11:10 AM Lothar Schulte*, Bing Wang (Equinor): Late Cretaceous Lysing Turbidite Reservoir Characterization of the Dønna Terrace, Norwegian Sea

Friday PM Grand Ballroom

<https://2019.gcagshouston.com/oral-program-friday-afternoon/>

PANEL DISCUSSION: SKILLS EVALUATION AND CAREER MANAGEMENT

Session Chair: Mike Erpenbeck

1:10 PM to 2:50 PM Panel Discussion with

Hal Miller, Subsurface Consultants;

John Sneider, Technical Director of Geoscience, Petroskills;

Robert Pledger, President, Ashford Oil & Gas LLC;

Tom Bowman, President, TBD Oil Corporation;

Geoff Davis, Senior Advisor, Morgan Stanley Investor Banking;

Susan Morrice, Co-Founder and Chairperson Belize Natural Energy Ltd;

Ted Kernan, Founder, Well Log Data.

2:50 PM break

Friday PM Grand Ballroom

SPECIAL TOPICS-DEPOSITION AND MODELING

Session Chair: Jerry Kendall

3:20 PM Jerry Kendall (Consultant): Fluvial Tapestries: The Depositional Record of Hurricane Harvey in Buffalo Bayou

3:45 PM Kate Kendall (Geo-Artist): Fluvial Tapestries: GeoArt of Hurricane Harvey in Buffalo Bayou

4:10 PM B. Frederick (U of Kansas): Lower Mississippi River Delta Deep-Seated Subsidence Rate Dynamics, Bias, and Spatial-Temporal Depocenter Complexities – Late Pliocene to Pleistocene

4:35 PM Liubove Mulisheva (SLB), S. Villarreal: New Geological Insights in Exploration Through Numerical 3D Modeling of Salt Evolution in Complex Campeche Deep Water Environments

Friday PM Briarpark Room

ROCK MECHANICS AND LOG ANALYSIS, Session Chair: Sharma Dronamraju

1:10 PM Chris Zahm (BEG) : High-Resolution Rock Strength and the Implications for Reservoir Geomechanics in the Cenomanian-age Buda Formation, Dimmit County, Texas

1:35 PM Robert Reed (BEG): Heterogeneity of Microscale Lithology and Pore Development in an Upper Cretaceous Eagle Ford Group Horizontal Core

2:00 PM David Tonner, Aaron Salin (DWL): Inorganic Elemental Rock Compositions Provide Detailed Subsurface Characterization to Reduce Geological and Stratigraphic Uncertainty.

2:25 PM Ramil Ahmadov (New England Research): Non-Destructive Automated Scanning of Fine-Scale Geological, Petrophysical And Geomechanical Rock Properties and Its Value In Reservoir Characterization

2:50 PM Break

3:20 PM A. Abishek (UPES): The Effect of Pre-Consolidation Stress on Stress-Strain Modeling of Unconsolidated Sands

3:45 PM Khaled Hashmy (RSTS Enterprises): The Apparent Producibility: A Novel Approach for Reliable Geological and Completion Decisions and Improved Net-Pay Determination

4:10 PM James Willis (Willis School Applied Geology): Quick-Look Deterministic Approach for Evaluating Shale Distribution in Sandstone Reservoirs

Friday PM Ballroom FGH

CARBONATE AND CLASTIC MEGA REGIONAL INSIGHTS , Session Chair: Jeffrey Duxbury

1:10 PM Jeffrey Duxbury (LSU): Temporal Scales of Mass Transport on The Mississippi River Delta Front from Results of a New Regional Survey

1:35 PM Robert Loucks (BEG): Depositional Systems, Lithofacies, Nanopore to Micropore Matrix Network, and Reservoir Quality of the Upper Cretaceous (Cenomanian) Buda Formation in Dimmit County, Southwestern Texas

2:00 PM Josh Rosenfeld (Independent): Erosion of the Florida and Yucatan Carbonate Margins of the Gulf of Mexico: Subaqueous or Subaerial?

2:25 PM Alex Owen* , E. Mancini (U Alabama): Depositional Model for Lithofacies Of the Upper Jurassic Smackover Formation in The Conecuh Embayment, Onshore Northeastern Gulf of Mexico: Implications for Petroleum Exploration

2:50 PM Break

3:20 PM Tobi Kosanke (ALS): Using Hyperspectral Imaging to facilitate upscaling of petrophysical and geological data for unconventional reservoirs: Application and results from the Third Bones Spring Shale and the Austin Chalk

3:45 PM Robert Scott (Precision Stratigraphy): Valanginian Knowles Limestone, East Texas, A Potential Reservoir

4:10 PM David King*, Jason Fisher (Auburn): Carbonate Facies Within Siliciclastic Submarine Fan Deposits, Lower Cenozoic Toledo Formation, Southern Belize: Petrography and Provenance

Friday PM Richmond Room

GLOBAL DEEPWATER RESERVOIRS II, Session Chairs Session Chairs: Dave Cantrell, Anshuman Pradhan, Mason Dykstra, Jon Rotzien

1:10 Peter Clift (LSU): Signal Loss and Sediment Recycling in The Quaternary Indus Fan and Delta System

1:35 PM Vlad Rotar (U. Stavanger): Reservoir Modeling and Uncertainty Estimation: A Comparison Between Stochastic and Deterministic Inversion

2:00 PM Philomena Y. Gan (U Texas): Downslope Facies and Architectural Variations of Deepwater Slope Channels in Outcrop, Case Study from Jurassic Neuquen Basin, Argentina

2:25 P Jon Rotzein (Basin Dynamics): Reservoir-scale architecture of deep-water slope, base-of-slope, and basin-floor fan depositional environments: The upper Miocene Urenui and Mount Messenger formations, New Zealand

2:50 PM Brent McInnes (Curtin University) The Exotica Carbonate Megabreccia Debris Flow Deposit and Associated Hydrocarbon Seeps in the New Ireland Basin, Papua New Guinea

3:20 PM Ben Kirkland (CNNOC Energy USA): Properties of Thermogenic and Microbial Hydrocarbon Mixtures at Gunflint Oil Field and Implications for Exploration in the Gulf of Mexico

3:45 PM Sebastian Cardona*, Lorena Moscardelli (Equinor): Subaqueous Landslides, Mass Transport Deposits and Other Catastrophic Units: 16 Years of Observations, Readings, Reviewing and Inconclusive Statements Regarding O&G Relevance

4:10 PM Anshuman Pradhan (Stanford): Integrating Basin Modeling and Seismic Imaging for Joint Uncertainty Reduction

4:35 PM I. Gjeldvek (Faroe): Assessment and Well Planning of A Shallow Marine Reservoir Based On High Resolution Angle Stack Seismic

No break in this session