



# Applied Geoscience Conference

March 8 - 9, 2016

## Integrated Approaches of Unconventional Reservoir Assessment and Optimization

Please join us for the Houston Geological Society's premier technical conference, offering the latest breakthroughs, technical perspectives and integrated approaches to unconventional reservoir assessment.

### Day 1

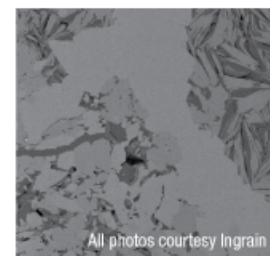
- Nano-scale Reservoir Behavior and Observations
- Petroleum System Attribute Integration
- Petrophysical Integration to Optimize Completions
- Hybrid Unconventional Opportunities

### Day 2

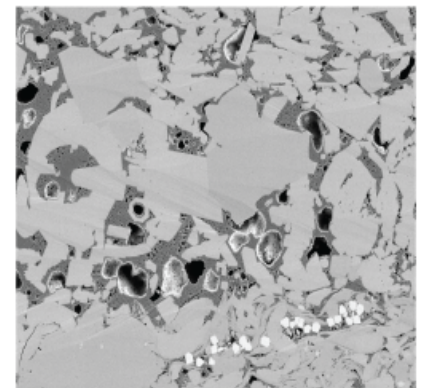
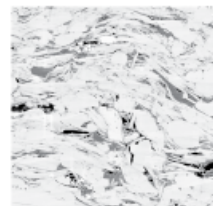
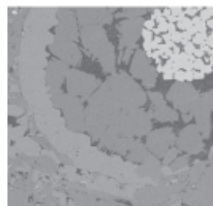
- Unconventional Technology for Tight Reservoirs
- Geophysical Advances for Reservoir Characterization
- Recompletions and Refracturing
- Integrated Reservoir Characterization for Fun and Profit

We will also feature posters highlighting university research, a multi core program supporting the oral technical program and a luncheon keynote address.

ANADARKO CONFERENCE CENTER  
1201 Lake Robbins Drive  
The Woodlands, TX 77380



All photos courtesy Ingrain



**Registration Open!**

For more information please visit: [www.hgs.org](http://www.hgs.org)



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## Oral Presentations – Tuesday, March 8, 2016

7:00	<b>Registration and Coffee</b>	
8:00 - 8:10	Welcome and Opening Remarks: <b>Frank Walles</b> , <i>Conference Chair</i> and <b>John Jordan</b> , <i>HGS President-elect</i>	
	<b>Session 1: Nanoscale Reservoir Behavior and Observations</b> <b>Session Chairs: Joe Macquaker and Avrami Grader</b>	
8:10 - 8:45	Connectivity in Nanoscale Cores	<b>Jop Klaver</b> , Guillaume Desbois, <i>RWTH Aachen University, Germany</i>
8:45 - 9:20	Making Geologic Sense of Pore-System Characterizations in Carbonate-Rich Mudrocks: Examples from the Niobrara Formation	<b>David Budd</b> , <i>University of Colorado</i>
9:20 - 9:55	Linking the Nanoscale with the Macroscale using Infrared Microscopy and Laser-Induced Breakdown Spectroscopy	<b>Kate Washburn</b> , <i>INGRAIN</i>
9:55 - 10:20	<b>Coffee, Core Displays and Exhibitor Presentations</b>	
	<b>Session 2: Petroleum Systems Attribute Integration</b> <b>Session Chairs: Neil Fishman and Taras Bryndzia</b>	
10:20 - 10:55	Variations of the Standard Measurement of Maturity (Vro%) in Unconventional Targets	<b>Paul Hackley</b> , <i>USGS</i>
10:55 - 11:30	Improved Assessment of Kerogen Density from Organic-Rich Shales—Impacts on Maturity Estimation and Petrophysical Interpretations	<b>Andrew E. Pomerantz</b> , <i>Schlumberger-Doll Research</i>
11:30 - 12:30	<b>Lunch, Poster, Core Displays and Exhibitor Presentations</b>	
12:00 - 12:30	<b>Luncheon Key Note Talk</b> Forward, Backward, Sideways – Market Redux	<b>Dr. Michelle Michot-Foss</b> , <i>University of Texas / BEG - Chief Energy Economist, Bureau of Economic Geology's Center for Energy Economics</i>
	<b>Session 3: Petrophysical Integration to Optimize Completions</b> <b>Session Chairs: Matt Williams and Barbara Hill</b>	
12:35 - 1:10	Graphitization and Aromaticity of Mature Kerogen and its Impact on Electrical Conductivity of Organic-Rich Mudrocks	<b>Angie Yang</b> , Gama Firdaus, and <b>Zoya Heidari</b> , <i>University of Texas</i>
1:10 - 1:45	High Resolution In-situ Elastic Property Characterization of Thin Laminates in Shale Formations	<b>Smaïne Zeroug</b> , <i>Schlumberger-Doll Cambridge, MA</i>
1:45 - 2:20	Diagenetic Evolution of Organic Matter Cements in Unconventional Shale Reservoirs	<b>Wayne K. Camp</b> , <i>Anadarko Petroleum Corporation</i>
2:20 - 2:45	<b>Coffee, Core Displays and Exhibitor Presentations</b>	
	<b>Session 4: Hybrid Unconventional Opportunities</b> <b>Session Chairs: Gretchen Gillis and Obie Djordjevic</b>	
2:45 - 3:20	Using Advanced Logging Measurements to Develop a Robust Petrophysical Model for the Bakken Petroleum System	<b>Gary Simpson</b> , John Hohman, <i>Hess Corporation</i> ; Iain Pirie, Jack Horkowitz, <i>Schlumberger</i>
3:20 - 3:55	A Tale of Two Three Forks: Unravelling the Intricacies of the Three Forks Using a Hybrid Conventional/Unconventional Toolset	<b>Mark Millard</b> , <i>SM Energy</i> , Riley Brinkerhoff, Sam Fluckiger
3:55 - 4:00	Closing Comments, Invitation to Posters and Core Sessions	
4:00 - 6:00	<b>Core, Exhibitor and Poster Presentations</b>	

### Poster Session – *Invited Presentations*

Open during All Coffee and Lunch Breaks  
Allison Hall, Main Conference Room



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## Oral Presentations – Wednesday, March 9, 2016

7:00	Registration and Coffee	
Session 5: Unconventional Technology for Tight Reservoirs Session Chairs: Mike Cameron and Mark Andreason		
8:10 - 8:45	A Regional Assessment of the Emerging Marble Falls Play in the Fort Worth Basin: The Effects of a Complex Sequence Stratigraphic Framework on Reservoir Lithofacies Distribution	Beau Berend, Ulysses Hargrove, Craig Adams, <i>Newark E&amp;P Operating, LLC</i> ; Mike Grace, <i>Independent Consultant</i> ; Mike Mullen, <i>Stimulation Petrophysics Consulting</i>
8:45 - 9:20	Comparing Gas Shales and Tight Oil Reservoirs	Alton Brown, <i>Independent</i>
9:20 - 9:55	Accurate Time and Lithologic Relationships Of “Woodbine Complex” East Texas Using Cores, Cutting, High Resolution Biostratigraphy and Maximum Flooding Surface Sequence Stratigraphy	Walter W. Wornardt Ph.D., <i>MICRO-STRAT INC.</i>
9:55 - 10:25	Coffee, Core Displays and Exhibitor Presentations	
Session 6: Geophysical Advances for Reservoir Characterization Session Chairs: Thomas Reed and Paul Collins		
10:25 - 11:00	Drilling and Completions Engineers Want More From Seismic	David Paddock, Colin Sayers, Don Lee, Chuck Wagner, <i>WesternGeco Schlumberger</i>
11:00 - 11:35	Evaluating Productivity of Unconventional Fields Through Multivariate Analysis	Damian Lynch, Paul Collins, <i>Statoil</i>
11:35 - 1:00	Lunch, Poster, Core Displays and Exhibitor Presentations	
1:00 - 1:10	Poster Awards Presentation	
Session 7: Recompletions and Refracturing Session Chairs: Casee Lemons and Arlin Howles		
1:10 - 1:45	Faulty Fracs — Can We Avoid the Need to Refrac with Better Input From Geoscientists?	Mike Vincent, <i>Fracwell</i>
1:45 - 2:20	Insight into Geomechanics of Re-Fracking — A Geomechanically Optimized Treatment Design	Sudhendu Kashikar, <i>MicroSeismic, Inc.</i>
2:20 - 2:55	Well Integrity and Candidate Requirements for Refracturing in Multiple Fractured Horizontal Wells	George King, <i>Apache</i>
2:55 - 3:25	Coffee, Core Displays and Exhibitor Presentations	
Session 8: Integrated Reservoir Characterization for Fun and Profit Session Chairs: John Breyer and Andy Benson		
3:25 - 4:00	Limestone Frequency and Well Performance Redux	J. A. Breyer, R. H. Wilty, D. Alfred, A. Salman, Y. Khadeeva, R. Hooper, and B. Kurtoglu, <i>Marathon Oil Eagle Ford Integrated Project Team</i>
3:50 - 4:20	Advanced Petrophysical, Geological, Geophysical and Geomechanical Reservoir Characterization — Key to the Successful Implementation of a Geo-Engineered Completion Optimization Program in the Eagle Ford Shale	Tie Sun, Chrystianto Mardi, German Merletti, Hemali Patel, Stephan Cadwallader, Mitchell Graff, Jeff Wampler, Ivan Gil, Herb Sebastian, David Spain, Omar Aguirre, <i>BP America</i>

### Core Displays

Core Display Chairs: Bruce Woodhouse and Taras Bryndzia

*Selected Core from Emerging and Established Unconventional Reservoirs Supporting the Oral Technical Presentations*

*Thanks to the Contributors*

**Bureau of Economic Geology, University of Texas**

**Shell Appalachia – Utica/Pt. Pleasant Formations**

**Anadarko Petroleum Corporation – Point Pleasant (Utica)-eastern Ohio/Marcellus-northern Pennsylvania**

Open During Coffee and Lunch Breaks • Allison Hall Third Floor, Rooms 16-17



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## Posters – March 8-9, 2016

Poster Session Chairs: Mike Effler and Steven Macallelo

University	Student Name	Poster Topic
Gdansk University of Technology	<b>Aleksandra Ptaszynska</b> , Maria Mastalerz, Jan Hupka, and Roberto Suarez-Riviera	The Role of Mineral and Organic Matter Constituents in Kerogen Transformation and Hydrocarbons Mobility
University of Alberta	<b>Korhan Ayranci</b> , Tian Dong, Nicholas Harris	Detailed Lithofacies Analysis and Sequence Stratigraphy of the Horn River Group, British Columbia, Canada
University of Calgary	<b>Emma L. Percy</b> , Dr. Per Kent Pedersen	Identifying “Sweet Spots” in Mudstones: Applying Conventional Exploration Methods to Unconventional Reservoirs
University of Houston/ GFZ-German Research Center for Geosciences	<b>Jingqiang Tan</b> , Brian Horsfield	Geological Characterization for the Lower Silurian and Lower Cambrian Shale Gas Systems in South China
University of Oklahoma	<b>Sayantana Ghosh</b> , Caleb P. Bontempi, Roger M. Slatt	Woodford Shale Fracture Distribution from Arbuckle Wilderness and US-77D Outcrops
University of Oklahoma	<b>Jing Zhang</b> , Bryan Turner, Roger Slatt	XRF Chemostratigraphy for Characterizing a Shale Reservoir Along a Horizontal Well Track
University of Oklahoma	<b>Tengfei Wu</b> , Jeremy Boak	Chemostratigraphy and Mineral Evolution of the Green River Formation
University of Texas	<b>Christopher Hendrix</b> , Harry Rowe, Robert G. Loucks	Calcareous Mudrock Chemolithostratigraphy of the Late Cretaceous South Texas Shelf
University of Texas	<b>Lauren Redmond</b> , Robert Loucks, Harry Rowe	Tying Core Descriptions and Optical Petrography with XRF Geochemical Data for a Detailed Characterization of the Mississippian Barnett Formation in the Southern Fort Worth Basin of North-Central Texas
University of Utah	Matthias Greb, Milind Deo, and <b>W. Lansing Taylor</b>	Source Rock Characterization, Development Strategies, and Fracture Complexity: Highlights of Shale Science Research at EGI
Virginia Polytechnic Institute	<b>T.R. Them II</b> , B.C. Gill	Paleoenvironmental Changes Recorded in an Early Jurassic Mudrock Succession from Western North America

## Participating Schools

Gdansk University of Technology

University of Alberta

University of Calgary

University of Houston

University of Oklahoma

University of Texas

University of Utah (EGI)

Virginia Polytechnic Institute

Open during Coffee and Lunch Breaks • Allison Hall Main Conference Room