



**Mini workshop**

**29 January, 2020 in Houston, TX**

**“Shale Reservoir Core Workshop:  
Shale gas/oil play analysis and  
techniques for characterization of  
mudrocks”**

**by Ursula Hammes, PhD**

This mini workshop provides an overview of organic-rich mudrock systems such as carbonate- and clastic-dominated shale systems with examples from different North American resource plays and methods to characterize those systems.



**Ursula Hammes, PhD**

Dr. Ursula Hammes obtained her Diploma in Geology from the University of Erlangen in Germany in 1987 and her PhD from the University of Colorado at Boulder in 1992. She spent ten years working as a consultant, performing postdoctoral research at the Bureau of Economic Geology, and as exploration geologist in industry. Dr. Hammes worked at the Bureau of Economic Geology and the University of Potsdam, Germany, as a Research Scientist and currently teaches at Texas A&M University as Halbouty Visiting Chair. Since January 2017, she has been consulting for a variety of oil and gas companies as well as teaching classes in evaluation of shale oil/gas plays. Her main research focus is in shale-gas/oil systems specializing in basin to nano-scale characterization of shale basins. Other research interests and specialities include clastic and carbonate sequence stratigraphy, analyses of depositional systems, and carbonate and clastic diagenesis. She has published more than 200 papers, 400 abstracts, and served as AAPG Bulletin Editor, AAPG session chair, GCSSEPM President, and lecturer.

<b>Date:</b>	<b>Wednesday, 29 January, 2020</b>
<b>Time:</b>	<b>8:30 am – 4 pm, breakfast from 8 am on</b>
<b>Price:</b>	<b>\$425 regular, \$375 discounted*</b> <i>*TerraEx clients, more than 2 from same company, more than 2 workshops</i>
<b>Included:</b>	<b>Training manual, hot lunch buffet, breakfast, beverages</b>
<b>Venue:</b>	<b>Bureau of Economic Geology Houston Core Research Center, 11611 West Little York Rd, Houston, Texas 77041</b>
<b>Register:</b>	<b><a href="#">Click here</a> or contact TerraEx Group at <a href="mailto:info@terraexgroup.com">info@terraexgroup.com</a>, + (303) 319 3043</b>

## Course Topics

- Overview of organic-rich mudrock systems
- Techniques for characterization of mudrocks
- Stratigraphic and depositional processes in shale basins
- Mudrock sedimentology

## Learning outcomes

This workshop will teach you how to:

- Gain basic understanding of different types of mudrock systems
- Compare the different systems and their differences on development of shale plays
- Learn current techniques in analyzing and assessing mudrock systems

## Who should attend:

Geoscientists, managers and engineers working in exploration or production, requiring basics and most current techniques of exploring in unconventional plays.

## Course Outline

The class will utilize lectures, core examination and exercises, to address the reservoir characterization, sedimentology, facies, sequence stratigraphy, and fractures of shale-gas/oil bearing mudrocks.

### Morning Session:

Approaches to understanding the geology of shale-gas/oil plays

- Overview of organic-rich mudrock systems
  - Carbonate-dominated systems
  - Clastic-dominated systems
  - Mud-dominated systems
- Examples from different North American resource plays
- Techniques for characterization of mudrocks (overview)
  - Sedimentology
  - Sequence Stratigraphy
  - Geochemistry
  - Petrophysics
  - Seismic and Geomechanics
  - Fractures

Core viewing: Cores from Eagle Ford and Haynesville

### Afternoon Session:

Stratigraphic and depositional processes in shale basins:

- Stratigraphic framework
  - Regional correlations and variations
  - Sequence stratigraphy (shelf to basin correlations)
  - Exercise
- Interpretation of depositional environments in shale basins:
  - Facies interpretations
    - Calcareous shales (Haynesville, Eagle Ford example)
    - Siliceous shales (Barnett, Bakken example)
    - Clay-rich shales (Tuscaloosa Marine Shale; Tertiary Shale)
  - Mudrock sedimentology
    - Sedimentary structures and depositional processes
    - Inter- and intrabasinal variations – examples from different shale basins (Haynesville, Eagle Ford)
    - Factors determining organic-rich deposits
      - Paleogeography
      - Ocean chemistry
      - Climate