

Title: Workshop on Digital Rock Physics Derived Rock Mechanics Properties

Date: Sunday, 28 June 2015, 8:30 am – 4:30 pm

Venue: The Westin St. Francis, San Francisco

Organized by: American Rock Mechanics Association and Society of Core Analysts

Hosts: John Shafer/Consultant; Mike Myers/Univeristy of Houston; Lori Hathon/Shell; Mark Knackstedt/FEI-Lithicon

| Session | Time | Title | Speaker | Company |
|--|---------------|--|-----------------------|------------------|
| Introduction | 8:30 - 8:40 | Workshop Objectives | Shafer, Myers, Hathon | |
| Rock 3D Imaging | 8:40 - 9:10 | Introduction to DRP and Predicted Rock Properties | Mike Marsh | Zeiss |
| -Conventional rocks: Micro- CT Imaging | 9:10 - 9:35 | FIB SEM Volumes in Shale Reservoirs: Acquisition, Processing and Utilization | Lori Hathon | Shell |
| -Unconventional rocks: FIBSEM | 9:35 - 10:00 | Compaction: Models for Prediction from Visual Data | Mike Myers | Univ. of Houston |
| | 10:00 - 10:20 | DISCUSSION | | |
| Tea & Coffee break | 10:20 - 10:40 | | | |
| Computing and Scale-Up Issues | 10:40 - 11:00 | Digital Rocks, the data challenge | Alon Arad | Shell |
| | 11:00 - 11:20 | Elastic and Mechanical Properties from DPR: Scales of Measurement and Upscaling | Jack Dvorkin | Ingrain |
| | 11:20 - 11:40 | Digital Rock Physics: Digital In-Situ Conditions | Erik Glatt | Math2Market |
| | 11:40 - 12:00 | DISCUSSION | | |
| Lunch | 12:00 - 13:00 | | | |
| Compaction: Experimental Data versus Model | 13:00 - 13:20 | Towards image-based compaction forecasting: Comparison between laboratory experiments and X-ray CT images | Laurent Louis | NER |
| | 13:20 - 13:40 | μ CT Fracture Imaging for Geomechanics Applications | Janelle Homburg | ExxonMobil |
| | 13:40 - 14:00 | On the prospects for nanometer-scale <i>in situ</i> geomechanics of shale with laboratory X-ray microscopy and comparison with DRP | Andy Steinbach | Zeiss |
| | 14:00 - 14:20 | Stressed Micro CT Imaging | Munir Aldin | Metarocklab |
| | 14:20 - 14:40 | DISCUSSION | | |
| Tea & Coffee break | 14:40 - 15:00 | | | |
| Mapping Mechanical Properties from mm to cm to log scale | 15:00 - 15:20 | Mechanical properties imaging using petrophysical core scanning | Laurent Louis | NER |
| | 15:20 - 15:40 | Petrophysical interpretation of digital rock physics data for shale elastic properties | Jack Dvorkin | Ingrain |
| Wrap-up and Open Discussion | 15:40 - 16:20 | What advances are required to predict Rock Mechanical properties with DRP? | | |
| Close Out | 16:20 - 16:30 | Feed Back on Workshop | Shafer, Myers, Hathon | |