

# The 2<sup>nd</sup> ARMA Hydraulic Fracturing Workshop Agenda

June 25, 2017. San Francisco, CA, USA

## 7:45 – 8:00 Opening Mark: HFC Updates

## 8:00 – 10:00 Lab and Field Session - 1

Chair: Tom Doe, Bill Carey

1. Bezalel Haimson (University of Wisconsin-Madison): HF for In-Situ Stress Measurements
2. Curtis Oldenburg (Lawrence Berkeley National Lab): HF in a deep mine: highlights from the KISMET project
3. Tom Doe (Golder Associates): Heterogeneity and topography in HF stress measurements
4. Romain Prioul (Schlumberger): Lab experiments to validate HF simulator
5. Ahmad Ghassemi (University of Oklahoma): Experimental Studies of Geothermal Stimulation by HF
6. Bruno Goncalves (New Jersey Institute of Technology): HF monitoring with image and acoustic emission

## 10:00 – 10:15 Coffee Break

## 10:15 – 12:15 Lab and Field Session - 2

7. Andrew Bungler (University of Pittsburgh): Rock breakage mechanism promoting multiple HFs
8. Jeffrey Burghardt (Pacific Northwest National Lab): HF initiation and propagation in heterogeneous rock
9. Murtadha Al Tammar (University of Texas): Pore pressure effect on HF growth
10. Diana Gomez Rodriguez (University of Waterloo): Cohesion and toughness in a transparent rock analogue
11. Bill Carey (Los Alamos National Lab): Fracture permeability and evolution in Marcellus shale
12. Hamid Pourpak (Total): Vaca Muerta case study

## 12:15 – 13:00 Lunch Break

## 13:00 – 14:15 Model Benchmark Session: Oral Presentations - 1

Chair: Mukul Sharma, Sau-Wai Wong

Case 1: Single fracture in homogeneous elastic media.

Case 2: Single fracture in layered, elastic formations.

Case 3: Single fracture in homogeneous, poroelastic and thermoelastic media

## 14:15 – 14:25 Coffee Break

## 14:25 – 15:40 Model Benchmark Session: Oral Presentations - 2

Case 5: Single fracture interacting with natural fractures and discontinuities (elastic and poroelastic)

Case 6: Single fracture in layered elastic media with complex fracturing fluids (non-Newtonian and compressible)

Case 7: Multiple competing fractures from perforation clusters (stress shadow effects).

## 15:45 – 17:15 Model Benchmark Session: Posters with **Beers**

Chair: Mukul Sharma, Sau-Wai Wong

## 17:15 – 17:30 Closing Mark: Where we are in fracturing physics and modeling