Save the date: June 25, 2023

Commemoration of Sau-Wai Wong

What: Workshop on Distributed Fiber Optic Sensing for Geomechanical Applications
Where: Atlanta, Georgia; Westin Peachtree Hotel
When: June 25, 2023
Cost: $175 (includes continental breakfast, lunch, and breaks)
Affiliation: ARMA Hydraulic Fracture Community
Conference: ARMA 57th U.S. ROCK MECHANICS / GEOMECHANICS SYMPOSIUM

Distributed Fiber Optic Sensing for Geomechanical Applications

8:10 am – 8:15 am Opening Remarks & Welcome (John McLennan)
8:15 am – 8:30 am Commemoration of Sau-Wai Wong (Alexei Savitski)

Session 1: Introduction of Distributed Fiber Optic Sensing (DFOS) and data interpretation
Session Chairs: Kan Wu, Egor Dontsov
- 8:30 am-9:00 am: Fiber optic sensors for fracture monitoring: from lab to field scale (Andres Chavarria, OptaSense)
- 9:00 am-9:30 am: Sensitivity and performance characterization of fiber optic cables for near-Static Strain Sensing Applications (Michel LeBlanc, Halliburton)
- 9:30 am-10:00 am: Impact of mechanical coupling on distributed strain sensing measurements (Ge Jin, Colorado of School Mines)

10:00 am – 10:30 am Coffee Break

Session 2: Geomechanics modeling
Session Chairs: John McLennan, Jesse Hampton
- 10:30 am-11:00 am: Numerical modeling of low frequency distributed acoustic sensing signals for mixed-mode reactivation (Chaoyi Wang, University of Calgary)
• **11:00 am-11:30 am:** Use the zero strain-rate location method to assess hydraulic fracture dimensions from crosswell low-frequency distributed acoustic sensing (Smith Leggett, Texas Tech University)

• **11:30 am-12:15 pm:** Catalogue of modeled and field examples of far-field FO strain-rate fracture driven interactions (FO Strain Rate FDI) (Kan Wu, Texas A&M University)

12:15 pm – 1:30 pm Lunch

**Session 3: DFOS applications in unconventional reservoir development**

**Session Chairs:** Ge Jin, Mohsen Babazadeh

• **1:30 pm-2:00 pm:** DAS microseismic reflection imaging for fracture characterization (Yuanyuan Ma, Rice University)

• **2:00 pm-2:30 pm:** In-Well stress shadow and near-wellbore fracture geometry diagnosis using high-resolution distributed strain sensing via Rayleigh Frequency Shift (Dana Mark Jurick, Neubrex)

• **2:30 pm-3:00 pm:** Quantitative analysis of HFTS-2 completion designs using cross-well strain measurements (Kan Wu, Texas A&M University)

3:00 pm – 3:30 pm Coffee Break

**Session 4: DFOS applications in CO₂ storage, geothermal development, and other subsurface activities**

**Session Chairs:** Herb Wang, Alexei Savitski

• **3:30 pm-4:00 pm:** Simulation-based evaluation of the effectiveness of fiber-optic sensing in monitoring water circulation in enhanced geothermal systems (Yongzan Liu, SLB)

• **4:00 pm-4:30 pm:** Measuring and interpreting the shallow strain tensor during transient well testing (Larry Murdoch, Clemson)

4:30 pm – 4:35 pm Wrap up