



Save the date: June 23, 2024

What: Workshop on Distributed Fiber Optic Sensing for Geomechanical Applications

Where: Golden, Colorado

When: Sunday, June 23, 2024 (~8:00 a.m. to 5:00 p.m.)

Cost: \$175 (includes continental breakfast, lunch, and breaks)

Affiliation: ARMA Hydraulic Fracturing Technical Community

Conference: ARMA 58th U.S. ROCK MECHANICS / GEOMECHANICS SYMPOSIUM

Distributed Fiber Optic Sensing for Geomechanical Applications

Workshop Description

Distributed Fiber Optic Sensing (DFOS) has gained much attention for its ability to directly monitor hydraulic fracturing and other geomechanical processes in the subsurface. This one-day workshop briefly overviews the current and evolving state of the technology, explores its applications and limitations in different subsurface activities, and evaluates the benefits the measurements can offer. The workshop will bring together operators, service companies, academics and other professionals to discuss the technology in four sessions.

Session 1: Hands-on Interactive Demonstrations to Introduce Distributed Fiber Optic Sensing (DFOS) Instruments

This session offers an immersive, hands-on experience with Distributed Fiber Optic Sensing (DFOS) instruments. Participants will have the unique opportunity to directly interact with these cutting-edge tools, gaining valuable insights into their operation and real-world applications. The workshop is structured to equip attendees with a comprehensive understanding of practical field measurements and detailed instructions on instrument usage. This enriching session is beneficial for both new and experienced fiber users, providing essential knowledge for effective field operations.



Session 2: Geomechanical Modeling based Data Interpretation

This session will demonstrate how geomechanical modeling can support interpreting and explaining measured signals to gain a better understanding of in-situ processes. The session will cover the latest research and developments for using geomechanical modeling to quantitatively interpret strain data and constrain reservoir and fracture properties and responses.

Session 3: DFOS applications in unconventional reservoir development

This session will explore the value that DFOS technology can provide for unconventional reservoir development and how it can be integrated with other diagnostic methods to optimize completion, well spacing, and production operations. Attendees will gain a comprehensive understanding of the advantages that DFOS can offer and how it can be used to optimize engineering designs and improve efficiency of the operations.

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

DFOS is a versatile technology that has numerous applications in subsurface activities besides hydrocarbon production, including CO₂ storage, geothermal development, well integrity of deepwater hydrocarbon development, induced seismicity monitoring, etc. This session will provide case studies and data acquisition examples for these applications. Attendees will gain an in-depth understanding of the potential benefits that DFOS can bring to these areas.

We welcome submissions from potential speakers. If you are interested in presenting at this workshop, please click on the link and submit an abstract for evaluation by the organizing committee before [March 31st, 2024](#).

<https://forms.office.com/r/qWhGNhBUzT?origin=IprLink>

For additional information or questions, please contact Dr. Kan Wu at kan.wu@tamu.edu, Dr. Ge Jin at gjin@mines.edu, or Peter Smeallie at smeallie@armarocks.org.