Texas 2021 Program at a Glance

The program for this year’s symposium will be conducted online due to the unfortunate worldwide pandemic. The symposium will stretch over eight days from Friday, 18 June, until Friday, 25 June 2021. This will allow us to accommodate various worldwide time zones and to avoid “Zoom Fatigue” as much as possible. Four short courses will be presented on Saturday, 19 June, and Sunday, 20 June. These courses are open to any symposium registrant. Monday through Friday will feature concurrent track sessions, poster sessions, keynote addresses, awards ceremonies, sponsors’ information, announcements, and social gatherings. Special student and Future Leader events are scheduled the week before or after the Symposium.

The technical program will stretch from Monday through Friday from 13:00 to 17:00 UTC. The following information is provided for convenience to our symposium attendees from around the world. Please double check your local time zone prior to events of interest.

12:00 UTC (Coordinated Universal Time)
08:00 New York (USA, EDT, UTC-4) 13:00 London (Europe, BST, UTC+1)
07:00 Houston (USA, CDT, UTC-5) 15:00 Riyadh (Middle East, AST, UTC+3)
06:00 Denver (USA, MDT, UTC-6) 20:00 Beijing (China, CST, UTC+8)
05:00 Los Angeles (USA, PDT, UTC-7) 22:00 Sydney (Australia, AEST, UTC+10)

Friday, June 18

14:00-21:00 UTC Special event Mentor-Student Event
09:00-16:00 Houston | 15:00-22:00 London | 17:00-00:00 Riyadh | 22:00-05:00 Beijing | 00:00-07:00 Sydney

Saturday, June 19

13:00-17:00 UTC Short course Numerical Modeling of Fluid Injection
Treatment of Naturally Fractured Rock Masses
08:00-12:00 Houston | 14:00-18:00 London | 16:00-20:00 Riyadh | 21:00-01:00 Beijing | 23:00-03:00 Sydney

Sunday, June 20

13:00-21:00 UTC Short course Overview of Unconventional Geomechanics
08:00-16:00 Houston | 14:00-22:00 London | 16:00-00:00 Riyadh | 21:00-05:00 Beijing | 23:00-07:00 Sydney

13:00-17:00 UTC Short course Putting DFN into Practice for Energy, Infrastructure, and Mining
08:00-12:00 Houston | 14:00-18:00 London | 16:00-20:00 Riyadh | 21:00-01:00 Beijing | 23:00-03:00 Sydney
Monday, June 21 — Times in UTC, unless otherwise noted.

12:00-12:40  Social hour for Australia, Asia, Europe, Eastern US time zones
12:40-12:50  Welcome


13:00-13:50  Five concurrent track sessions
08:00-08:50 Houston | 14:00-14:50 London | 16:00-16:50 Riyadh | 21:00-21:50 Beijing | 23:00-23:50 Sydney

1.1.B Numerical Modeling Developments for Mining Applications
1.1.C Numerical Modeling in Geomechanics: Civil Engineering Applications
1.1.D Drilling — Open Hole Wellbore Mechanics and Stability — 1
1.1.E Unconventional Geomechanics Characterization — 1
1.1.F Data Analysis and Machine Learning Applications in Geomechanics

13:50-14:00  Break

14:00-14:50  Five concurrent track sessions
09:00-09:50 Houston | 15:00-15:50 London | 17:00-17:50 Riyadh | 22:00-22:50 Beijing | 00:00-00:50 Sydney

1.2.B Numerical Modeling and Rock Mass Characterization for Mining
1.2.C Rock Mass Characterization and Geohazards
1.2.D Drilling — Open Hole Wellbore Mechanics and Stability — 2
1.2.E Unconventional Geomechanics Characterization — 2
1.2.F Stress Field and Beyond: Remembrance of Francois Cornet

14:50-15:50  Keynote  SARAH WILSON

Session sponsor:  U.S. Department of Energy
Opening remarks:  ARMA Technical and Distinguished Service Awards for 2020 and 2021

15:50-16:00  Break

16:00-16:50  Five concurrent track sessions
11:00-11:50 Houston | 17:00-17:50 London | 19:00-19:50 Riyadh | 00:00-00:50 Beijing | 02:00-02:50 Sydney

1.4.B Department of Energy GTO Overview by Dr. Sue Hamm & Geothermal Panel Discussion
1.4.C Drilling — Open Hole Wellbore Mechanics and Stability — 3
1.4.D Drilling — Cased Hole Wellbore Integrity — 1
1.4.E Unconventional Geomechanics Characterization — 3
1.4.F Hydraulic Fracturing Stress Measurements — Interdisciplinary Aspects of Theory, Performance, and Interpretation

16:50-18:00  Social hour for US, Europe, Western Asia
Tuesday, June 22 — Times in UTC, unless otherwise noted.

12:00-13:00  Social hour for Australia, Asia, Europe, Eastern US time zones

13:00-13:50  Five concurrent track sessions
08:00-08:50 Houston | 14:00-14:50 London | 16:00-16:50 Riyadh | 21:00-21:50 Beijing | 23:00-23:50 Sydney

   2.1.B Rock Mechanics and Geohazards in Mining
   2.1.C Slope Stability, Dams and Foundations
   2.1.D Drilling — Cased Hole Wellbore Integrity — 2
   2.1.E Induced Seismicity (Disposal / Stimulation Wells)
   2.1.F Coupled THMC Experiments

13:50-14:00  Break

14:00-14:50  Poster sessions
09:00-09:50 Houston | 15:00-15:50 London | 17:00-17:50 Riyadh | 22:00-22:50 Beijing | 00:00-00:50 Sydney

   2.2.B Unconventionals Posters: Geomechanics / Drilling Challenges
   2.2.C Civil / Mining Posters
   2.2.D Conventional Posters: Characterization / Reservoirs
   2.2.E Unconventionals Posters: Hydraulic Fracture Modeling
   2.2.F Interdisciplinary Posters: Shales / Drilling

14:50-15:50  Keynote AHMAD GHASSEMI

   Session sponsor: Aramco
   Opening remarks: Recognition of student chapters and leaders
                  Winners of student research, design, and photo competitions

15:50-16:00  Break

16:00-16:50  Five concurrent track sessions
11:00-11:50 Houston | 17:00-17:50 London | 19:00-19:50 Riyadh | 00:00-00:50 Beijing | 02:00-02:50 Sydney

   2.4.B Collab Measurements, Simulations, and Learnings
   2.4.C Coupled THMC Modeling
   2.4.D Drilling — Cased Hole Wellbore Integrity — 3
   2.4.E Hydraulic Fracture Modeling — Theoretical, Experimental, and Numerical — 1
   2.4.F Drilling — Mechanics, Process, and Automation

16:50-18:00  Social hour for US, Europe, Western Asia
**Wednesday, June 23** — *Times in UTC, unless otherwise noted.*

**12:00-13:00**  **Social hour for Australia, Asia, Europe, Eastern US time zones**

**13:00-13:50**  **Five concurrent track sessions**

08:00-08:50 Houston | 14:00-14:50 London | 16:00-16:50 Riyadh | 21:00-21:50 Beijing | 23:00-23:50 Sydney

- 3.1.B Slope and Underground Mine Development
- 3.1.C Tunneling and Underground Construction
- 3.1.D Drilling — Depleted Reservoirs
- 3.1.E Hydraulic Fracture Modeling — Theoretical, Experimental, and Numerical — 2
- 3.1.F Subsurface Storage and Sequestration

**13:50-14:00**  **Break**

**14:00-14:50**  **Five concurrent track sessions**

09:00-09:50 Houston | 15:00-15:50 London | 17:00-17:50 Riyadh | 22:00-22:50 Beijing | 00:00-00:50 Sydney

- 3.2.B Characterization — Pore Pressure and Fracture Gradient
- 3.2.C Experimental Rock Mechanics / Advances in Rock Testing — 1
- 3.2.D Characterization — Novel Techniques for Geomechanics — 1
- 3.2.E Hydraulic Fracture Modeling - Theoretical, Experimental, and Numerical — 3
- 3.2.F Mechanics and Physics of Shale

**14:50-15:50**  **Panel** **WOMEN IN ROCK MECHANICS**


- Session sponsor: **Shell**
- Opening remarks: **Induction of new class of ARMA Fellows and Future Leaders**
- Moderator: **Kathy S. Kalenchuk**
- Panelists: **Kate Baker, Véronique Falmagne, Ghazal Izadi,**
  **Priscilla Nelson, Courtney Palleske, Marlene Villeneuve**

**15:50-16:00**  **Break**

**16:00-16:50**  **Five concurrent track sessions**

11:00-11:50 Houston | 17:00-17:50 London | 19:00-19:50 Riyadh | 00:00-00:50 Beijing | 02:00-02:50 Sydney

- 3.4.B Geothermal Simulations and General Geothermal Considerations — 1
- 3.4.C Drilling Challenges in Unconventionals
- 3.4.D Characterization — Novel Techniques for Geomechanics — 2
- 3.4.E Hydraulic Fracture Modeling — Theoretical, Experimental, and Numerical — 4
- 3.4.F Constitutive Behavior in Geomechanics: Experiments, Simulations, and Applications

**16:50-18:00**  **Social hour for US, Europe, Western Asia**
Thursday, June 24 — Times in UTC, unless otherwise noted.

12:00-13:00  Social hour for Australia, Asia, Europe, Eastern US time zones

13:00-13:50  Five concurrent track sessions
08:00-08:50 Houston  |  14:00-14:50 London  |  16:00-16:50 Riyadh  |  21:00-21:50 Beijing  |  23:00-23:50 Sydney

4.1.B Mining Innovations and Ground Control
4.1.C Experimental Rock Mechanics / Advances in Rock Testing — 2
4.1.D Characterization - Novel Techniques for Geomechanics — 3
4.1.E Hydraulic Fracture Modeling — Applications and Case Studies
4.1.F Salt Systems / Underground Storage in Salt

13:50-14:00  Break

14:00-14:50  Poster sessions
09:00-09:50 Houston  |  15:00-15:50 London  |  17:00-17:50 Riyadh  |  22:00-22:50 Beijing  |  00:00-00:50 Sydney

4.2.B Unconventionals Posters: Hydraulic Fracture Modeling / New Techniques in HF
4.2.C Interdisciplinary Posters: Constitutive Modeling / Multi-scale Characterization
4.2.D Conventionals Posters: Production / Drilling
4.2.E Unconventionals Posters: General Considerations
4.2.F Interdisciplinary Posters: General considerations

14:50-15:50  Keynote MATT PIERCE

Session sponsor:  Rocscience
Opening remarks:  Recognition of rotating and introduction of new Board members and officers

15:50-16:00  Break

16:00-16:50  Five concurrent track sessions
11:00-11:50 Houston  |  17:00-17:50 London  |  19:00-19:50 Riyadh  |  00:00-00:50 Beijing  |  02:00-02:50 Sydney

4.4.B Geothermal Simulations and General Geothermal Considerations — 2
4.4.C Production Decline and Rock Mechanics: Mechanisms and Mitigation
4.4.D Reservoir — Field Scale Compaction, Subsidence, Casing Deformation
4.4.E Geomechanics of Hydraulic Fracture Interference: Intra-Stage, Intra-Well & Inter-Well
4.4.F Multi-scale Characterization and Modeling of Rock Heterogeneities

16:50-18:00  Social hour for US, Europe, Western Asia
Friday, June 25 — *Times in UTC, unless otherwise noted.*

12:00-13:00  **Social hour for Australia, Asia, Europe, Eastern US time zones**

13:00-13:50  **Five concurrent track sessions**

08:00-08:50 Houston | 14:00-14:50 London | 16:00-16:50 Riyadh | 21:00-21:50 Beijing | 23:00-23:50 Sydney

- **5.1.B** DFN and Longwall Geomechanics
- **5.1.C** Experimental Rock Mechanics / Advances in Rock Testing — 3
- **5.1.D** Reservoir — Complex Settings: Structural, Heterogeneous, Deepwater & Salt Systems
- **5.1.E** Unconventional Hydraulic Fracturing, New Techniques, and Applications — 1
- **5.1.F** Induced Seismicity

13:50-14:00  **Break**

14:00-14:50  **Five concurrent track sessions**

09:00-09:50 Houston | 15:00-15:50 London | 17:00-17:50 Riyadh | 22:00-22:50 Beijing | 00:00-00:50 Sydney

- **5.2.B** DFN
- **5.2.C** Nondestructive Evaluation in Rock Mechanics
- **5.2.D** Production — Geomechanics Driven Production Decline
- **5.2.E** Unconventional Hydraulic Fracturing, New Techniques, and Applications — 2
- **5.2.F** Machine Learning and Artificial Intelligence Applications for Petroleum Reservoirs

14:50-15:50  **Early Career Keynote**  **HIROKI SONE**


**Session sponsor:**  **Itasca**

**Opening remarks:**  **Recognition of the 2021 organizing committee**

**Announcement of Best Paper Awards**

**Invitation to the Santa Fe 2022 symposium**

**ISRM Initiative on Planetary Rock Mechanics**

15:50-16:00  **Break**

16:00-16:50  **Five concurrent track sessions**

11:00-11:50 Houston | 17:00-17:50 London | 19:00-19:50 Riyadh | 00:00-00:50 Beijing | 02:00-02:50 Sydney

- **5.4.B** Nonconventional Geothermal Applications
- **5.4.C** Petroleum in Latin America: Conventional and Unconventional
- **5.4.D** Production — Injection Hazards, Faults and Fractures Stability and Reactivation
- **5.4.E** Fracture Diagnostics and Surveillance: New Technologies and Methods
- **5.4.F** Experiment, Modeling, and Machine Learning Applications in Geomechanics

16:50-18:00  **Closing session and social hour for US, Europe, Western Asia**