

EGS Collab MSWG Teleconferences

Teleconference #1: February 23, 2017

- Overview of numerical simulation capabilities
- Field experiments for benchmarking
- Field experiments for specific code features

Teleconference #2: March 02, 2017

- Identify a metric for halting the chilled-water circulation experiment (i.e., Task 5)
 - Flow rate
 - Time required for the experiment
 - Volume of water circulated
 - Chiller capacity
- Hydraulic impedance
- Preliminary results from numerical simulations of coupled THM processes associated with circulating chilled water through a single fracture, in support of the ongoing design efforts for Task 5 (Pengcheng Fu)

Teleconference #3: March 16, 2017

- Local and site-wide heterogeneity in stress and elastic properties (Jeff Burghardt)
- Numerical simulations in support of the kISMET project (Hai Huang)

Teleconference #4: March 30, 2017

- Transverse vs axial fractures, simulations of kISMET hydraulic fracturing and implications for future work (Ahmad Ghassemi)
- Implications of wellbore orientation for patterns of fracture initiation (Joe Morris, Mark McClure, Jeff Burghardt, and Jing Zhou)

Teleconference #5: April 6, 2017

- Implications of wellbore orientation for patterns of fracture initiation (Pengcheng Fu, Jeff Burghardt, Hai Huang, and Jing Zhou)
- Modeling and simulation assignments (Mark White)
- Preliminary simulation results for coupled hydromechanical flow in a single hydraulic fracture under kISMET stress conditions (Pengcheng Fu)

Teleconference #6: May 4, 2017

- Electrical resistivity tomography (Tim Johnson)
- Blue Canyon Dome (Hunter Knox)
- Circulation Test Design (Mark White)

Teleconference #7: May 23, 2017

- Borehole notching simulations (Pengcheng Fu, LLNL)
- Strain simulations for analyzing an alternative displacement measurement to monitor hydraulic fracturing growth (Pengcheng Fu, LLNL)
- Rockworks geologic model review (Craig Ulrich, LBNL; Hari Neupane, INL; Paul Schwering, SNL; Bud Johnston, NREL; Mark White, PNNL)
- kISMET temperature logs and preliminary analysis (Bill Roggenthen, SDSMT; Mark White, PNNL)
- GRC paper (Pengcheng Fu, LLNL; Mark White, PNNL; Hai Huang, INL; Ahmad Ghassemi, OU; The SIGMA-V Team)

Teleconference #8: June 06, 2017

- Field Testing Debriefing (Jeff Burghardt)
- Leakoff Calculations (Tom Doe and Hai Huang)
- Follow-up Hydraulic Stimulation and Microseismicity Simulations (Hai Huang)

Teleconference #9: June 13, 2017

- Field Testing Debriefing (Mark White)
- Temperature Distribution Data (Mark White)
- Lessons Learned from Previous Hydraulic Fracturing Experiments in Granite (Jonny Rutqvist)
 - What fracture aperture to expect and how it might change with pressurization? The presentation will summarize some previous work on coupled hydromechanical modeling of hydraulic fracturing experiments in granite, including measurement of hydraulic aperture and fracture size using stiff pulse injection tests.

Teleconference #10: June 20, 2017

- Field Testing Debriefing (Mark White)
- Finding the Fracture Debriefing (Tim Kneafsey)
- Simulations of Fracture Arrival at the Production Well (Pengcheng Fu)
- Dimensional Analysis of the Fracture Zone (Jeff Burghardt)

- Fracture Calibration Tests (Mark McClure)
- Impact of Injection Rate on Fracture Size (Ahmad Ghassemi)

Teleconference #11: July 10, 2017

- Analysis of using pressure-control in production wells to observe fracture-well intersection and control fracture growth (Pengcheng Fu and Joe Morris)

Teleconference #12: July 18, 2017

- Field Testing Debriefing (Mark White)
- Rock Modeling Parameters (MSWG)
- Fracture Modeling Parameters (MSWG)
- Reactive Transport Modeling Parameters (MSWG)

Teleconference #13: July 25, 2017

- Field Testing Debriefing (Mark White)
- Simple Analytical Tools for Fracture Design (Mark McClure)
- Packer-Wellbore Stress Interactions (Pengcheng Fu)
- kISMET Well Temperature Modeling with Evaporative Cooling (Mark White)
- Review of Rock and Fracture Parameters for Modeling
- Thermal Circulation Experimental Design
- Discussions on Reactive Transport Parameters for Modeling

Teleconference #14: August 1, 2017

- Field Testing Debriefing (Mark White)
- 4850 Level West Access Drift Thermal Modeling
- Thermal Circulation Experimental Design
- Simulation Reporting Protocols
- Tracer Modeling Parameters

Teleconference #15: August 8, 2017

- Field Testing Debriefing (Mark White)
- Geophysical Characterization Plans and Needs (Jeff Burghardt)
- Geomechanical and Thermal Modeling for the 4850 Level Drifts (Yidong Xia and Hai Huang)
- Conservative Tracer and Thermal Breakthrough Scenarios (Bud Johnson)

Teleconference #16: August 15, 2017 (cancelled)

- Field Testing Debriefing (Mark White)
- Geomechanical and Thermal Modeling for the 4850 Level Drifts (Yidong Xia and Hai Huang)
- Conservative Tracer and Thermal Breakthrough Scenarios (Bud Johnson)
- Characterization Poll (Jeff Burghardt)

Teleconference #17: August 22, 2017

- Field Testing Debriefing (Mark White)
- Geomechanical and Thermal Modeling for the 4850 Level Drifts (Yidong Xia and Hai Huang)
- Conservative Tracer and Thermal Breakthrough Scenarios (Bud Johnson)
- Characterization Poll (Jeff Burghardt)

Teleconference #18: August 29, 2017

- Field Testing Debriefing (Mark White)
- Characterization Poll (Jeff Burghardt)
- Numerical Simulation of Micro-Seismic Events and Magnitudes during Fracture Stimulation (Hai Huang and Jing Zhou)

Teleconference #19: September 12, 2017

- Field Testing Debriefing (Mark White)
- Numerical Simulation of Micro-Seismic Events and Magnitudes during Fracture Stimulation (Hai Huang and Jing Zhou)
- Near-Drift Fracture Trajectory (Pengcheng Fu and Joe Morris)
- Updated Packer Deformation Analysis (Pengcheng Fu and Joe Morris)
- Borehole Characterization Priority List (Jeff Burghardt)

Teleconference #20: September 26, 2017

- Field Testing Debriefing (Mark White)
- Find the Fracture (Christine Doughty)
- Numerical Simulation of Thermal and Tracer Experiments (Christine Doughty and Yingqi Zhang)
- Updated Packer Deformation Analysis and Fracture Stimulation (Pengcheng Fu and Joe Morris)

Teleconference #21: October 10, 2017

- Modeling of Thermal and Poroelastic Stress Disturbance around the 4850 Drift (Jonny Rutqvist)
- Matrix Permeability Estimation and Tracer/Thermal Test Modeling (Quanlin Zhou)
- GRC Conference Debrief (Tim Kneafsey)
- Field Testing Debriefing (Mark White)
- Stress Measurements (Tom Doe)

Teleconference #22: October 17, 2017

- Field Report (Bill Roggenthen)
- Solid Earth Model (Rob Podgorney)
- Experimental Outcome Forecasting via Numerical Simulation (Mark White)
- MEQ Design Study (Greg Newman and Petr Petrov)

Teleconference #23: November 7, 2017

- Field Testing Debriefing (Tim Kneafsey)
- Borehole Drilling and Hydraulic Communications (Luke Frash)
- Simulation Forecasting Poll (Mark White)
- Simulator Advances (Mark White)
- DEM Simulations of Fracture Propagation with Thermal Stress from Drift Cooling (Hai Huang and Jing Zhou)

Teleconference #24: November 21, 2017

- Field Testing Debriefing (Mark White)
- Peer Review Debriefing (Tim Kneafsey)
- ResFrac: Development and Applications (Mark McClure)
- In-Situ Temperature Estimation during Grout Setting (Mark White)
- Embedded Fracture Modeling Capabilities for STOMP-GT (Mark White)

Teleconference #25: December 5, 2017

- Field Testing Debriefing (Mark White)
- Tracer Experiments (Earl Mattson)
- Natural Fracture Conceptualizations (Tom Doe)
- OU Code Advances and Rock Data Updates (Ahmad Ghassemi)
- Electrical Resistivity Tomography Modeling (Hui Wu, Pengcheng Fu, and Joe Morris)

Teleconference #26: December 19, 2017

- Field Testing Debriefing (Mark White)
- Electrical Resistivity Tomography Modeling (Hui Wu and Pengcheng Fu)
- Code Verification against Multiple Underground Research Laboratory Experiments (Koenraad Beckers and Kagan Kutun)

Teleconference #27: January 9, 2018

- Field Testing Debriefing (Mark White)
- Experimental Measurements for Prioritized Properties (Megan Smith)
- DEM Fracturing Simulations Under Thermal Stress Gradients (Hai Huang)

Teleconference #28: January 23, 2018

- Field Testing Debriefing (Mark White)
- DEM Fracturing Simulations under Thermal Stress Gradients (Hai Huang and Jing Zhou)
- Fracture Caging Experiments (Luke Frash)
- SPE Hydraulic Fracturing Technology Conf. (Mark McClure)

Teleconference #29: January 30, 2018

- Field Testing Debriefing (Mark White)
- Solid Earth Modeling Updates and LeapFrog Overview (Hari Neupane and Rob Podgorney)
- Circulation Experiments (Tim Johnson)
- 4850 Level Drift Thermal Modeling (Mark White)

Teleconference #30: February 6, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Imperial College London THM Geothermal Modeling (Adriana Paluszny, Imperial)
- 4850 Level Drift Thermal Modeling (Mark White, PNNL)
- Circulation Experiments Series (Tim Johnson, PNNL)

Teleconference #31: February 20, 2018

- Field Testing Debriefing (Craig Ulrich, LBNL)
- Design of the Stimulation and Circulation Tests for Experiment #1 (Mark White, PNNL)

Teleconference #32: February 27, 2018

- Field Testing Debriefing (Mark White, PNNL and Pat Dobson, LBNL)
- Design of the Tracer Tests for Experiment #1, Part 1 (Earl Mattson, PNNL)

Teleconference #33: March 06, 2018

- Field Testing Debriefing (Mark White, PNNL and Hunter Knox, SNL)
- Design of the Tracer Tests for Experiment #1, Part 2 (Earl Mattson, PNNL)
- Ideas for Hydro Testing (Tom Doe, TDoeGeo)

Teleconference #34: March 13, 2018

- EGS Collab Tracer Experimental Planning (Mark White, PNNL and Earl Mattson, INL)

Teleconference #35: March 20, 2018

- Field Testing Debriefing (Jeff Burghardt, PNNL)
- Back-Pressure Control during Circulation Experiments (Quanlin Zhou, LBNL)

Teleconference #36: March 27, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Numerical Simulations of Tracer Transport through Fractured Rock (Yingqi Zhang, LBNL)
- Temperature Responses during Grouting of the Monitoring Boreholes (Mark White, PNNL and Jonathan Ajo-Franklin, LBNL)

Teleconference #37: April 04, 2018

- Stimulation Protocol What Ifs (Mark White, PNNL)

Teleconference #38: April 10, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Wellbore Mixing and Sorbing Tracers Numerical Predictions for EGS Collab Experiments (Bud Johnston, NREL and Phil Winterfeld and Yu-Shu Wu, CSM)
- Stimulation Protocols What Ifs (Mark White, PNNL)

Teleconference #39: April 24, 2018

- Field Testing Debriefing (Jeff Burghardt, PNNL)
- Update on Simulation Efforts (Ahmad Ghassemi, OU)
- Simulations for Assessing the Impact of Mixing on Tracer Experiments (Bud Johnston, NREL)

Teleconference #40: May 01, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Sensitivity Model Runs on Fracture Sizes versus Matrix Permeability and Injection Rates (Hai Huang, INL)
- Fracture Analytics with Constant Fracture Compliance and Fracture Pressure Dependent Leak-Off (Mark White, PNNL)

Teleconference #41: May 08, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Retrieving Stimulation Data from OpenEI (Jon Weers, NREL)
- Posting Fracture Analytics (Mark White, PNNL)
- Preliminary Results from ERT Inversions on the Blue Canyon Dome Dataset (Pengcheng Fu, LLNL)

Teleconference #42: May 15, 2018

- Field Testing Debriefing (Paul Schwering or Hunter Knox, SNL)
- Comparison of Observations and Forecasts (Curt Oldenburg, LBNL)
- Minimizing Numerical Diffusion in Tracer Advection to Enable Detecting Discrete Flow Channels (Pengcheng Fu and Hui Wu, LLNL)

Teleconference #43: May 22, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Retrieving Stimulation Data from OpenEI (Jon Weers, NREL)
- Posting Fracture Analytics (Mark White, PNNL)
- Preliminary Results from ERT Inversions on the Blue Canyon Dome Dataset (Pengcheng Fu, LLNL)

Teleconference #44: May 29, 2018

- Field Testing Debriefing (Hunter Knox, SNL)
- Fault Slip Potential (Ankush Singh, Stanford)
- DSS and DTS in OT (Jonathan Ajo-Franklin, LBNL)
- Repairing OT Leak (Hunter Knox, SNL)
- Simulations of Collab HF-Exp1-2 (Sesetty and Ghassemi, OU)
- Open Discussions (EGS Collab Team)

Teleconference #45: June 5, 2018

- Test status
- Task 4.5 Description/Issues/Questions
- Task 4 Stimulation Data Analyses
- Task 4.5 Protocol Development (Pengcheng Fu and Joe Morris)
- Discussion

Teleconference #46: June 12, 2018

- Field Testing Debriefing (Mark White, PNNL)
- Experiment Introductions (Derek Elsworth, PSU)
- Evolution of Permeability through the Earthquake Cycle (KJ Im, PSU)
- Co-Evolution of Fracture Permeability and Friction in Rocks from the EGS Collab Experiment 1 Site (Elif Yildirim, PSU)
- CMWR2018 Debriefing (Mark White, PNNL)
- Open Discussions (EGS Collab Team)

Teleconference #47: June 26, 2018

- Overview and Discussions of Field Experiments (EGS Collab Team)
 - E1-I Stimulation (21-24 May 2018)
 - E1-I Pressure Transient Test (14 June 2018)
 - E1-P Pressure Transient Test (14 June 2018)
 - E1-I Step Pressure Test (20 June 2018)
 - E1-I Step Pressure Test (21 June 2018)
 - E1-I Step Pressure Test (22 June 2018)
 - E1-P High Flow Rate Test (25 June 2018)
 - E1-I High Flow Rate Test (25 June 2018)
- Analysis of the Step-Pressure Experiments (Pengcheng Fu and Joe Morris)

Teleconference #48: July 10, 2018

- Field Testing Debriefing (Tim Johnson, PNNL)
- Seismic Event Locations (Martin Schoenball, LBNL)
- Time-Lapse Electrical Resistivity Tomography (Tim Johnson, PNNL)
- Documentation and Analysis of the Stimulation and Flow Testing Campaigns (Pengcheng Fu and Hui Wu, LLNL)

Teleconference #49: July 17, 2018

- Overview and Discussions of Field Experiments (EGS Collab Team)
 - E1-I Packer and SIMFIP Removal (07/09/18)
 - E1-I Replacement Packer Installation (07/10/18)
 - E1-I Long-Term Intermediate-Flowrate Test (07/11/18)
 - E1-I Long-Term Intermediate-Flowrate Test (07/12/18)

Teleconference #50: July 24, 2018

- Overview and Discussions of Field Experiments
 - Week of 07/18/2018 through 07/20/2018
 - Stimulations and flow testing near the E1-I 128' notch
 - Jeff Burghardt
- General Announcements
 - New interface on OpenEI
 - Tour of the 4850 Level experiments by GTO
 - SURF refresher training pending for some staff
 - Bud Johnston will be joining the mine field team
 - Yves to present SIMFIP data in two weeks
 - Focus on analysis and strategy over coming weeks

Teleconference #51: July 31, 2018

- Field Debriefing, Mark White (PNNL)
- Fracture Network Conceptual Models, Tom Doe (TDoeGeo)
- Key Experimental Observations, Pengcheng Fu and Hui Wu (LLNL)
- Determinable Parameters, Mark McClure (McClure Geomechanics)

Teleconference #52: August 8, 2018

- Determinable Parameters, Mark McClure (McClure Geomechanics)
- EGS Collab Micro-Seismicity Update (Martin Schoenball, LBNL)
- Near-Term Modeling Plans and Data Needs (Mark White, PNNL)
- Chronologic Order of Packer Locations (Pengcheng Fu, LLNL)

Teleconference #53: August 28, 2018

- Field Call Debriefing, (Mark White, PNNL)
- Discrete Fracture Networks and Modeling, (Nataliia Makedonska, LANL)
- Shear Fracturing Experiments, (Luke Frash, LANL)
- Fracture Stimulation Analytics, (Mark McClure, McClure Geomechanics)

Teleconference #54: September 11, 2018

- Field Call Debriefing, (Jeff Burghardt, PNNL)
- Interpretation of EGS Collab Micro-Seismic Data between May and July 2018 (Pengcheng Fu, LLNL, Martin Schoenball, LBNL and Joe Morris, LLNL)

Teleconference #55: September 18, 2018

- Field Call Debriefing, (Jeff Burghardt, PNNL)
- Results from Laboratory Testing on Test Bed 1 Cores (Kate Condon and Herb Wang, Univ. Wisconsin)
- Review of SIMFIP Data (Paul Cook and Yves Gugliemi, LBNL)

Teleconference #56: October 2, 2018

- Field Call Debriefing, (Mark White, PNNL)
- dfnWorks Demonstration (Nataliia Makedonska, LANL)

Teleconference #57: October 23, 2018

- Field Call Debriefing (Paul Schwering, SNL and Tim Kneafsey, LBNL)
- CDFN Team (Paul Schwering, SNL, Tom Doe, TDoeGeo, Bill Roggenthen, SDSMT, Nataliia Makedonska, LANL, Craig Ulrich, LBNL, Bud Johnston, NREL, Hari Neupane, INL, Kate Condon, Univ. Wisconsin, Ankush Singh, Stanford, Pat Dobson, LBNL, Rob Podgorney, INL, and Nuri Uzunlar, SDSMT,
- Ground Truth Recap (Paul Schwering, SNL and Bill Roggenthen, SDSMT)

- Televiewer Log Picking (Craig Ulrich, LBNL)
- Depth Registration and CDFN Introduction (Tom Doe, TDoeGeo)
- Open Discussions of the CDFN (EGS Collab Team)

Teleconference #58: October 30, 2018

- Field Call Debriefing (Paul Schwering, SNL and Tim Kneafsey, LBNL)
- ERT Characterization Notch 1 Experiment Overview (Mark White, PNNL)
- C-Dot Tracer Experiments (Adam Hawkins and Yuran Zhang, Stanford)
- ERT Characterizations (Tim Johnson, PNNL)

Teleconference #59: November 6, 2018

- Field Call Debriefing (Hunter Knox, SNL and Chris Strickland, PNNL)
- ERT Characterization Notch 1 Experiment Overview (Mark White, PNNL)
- C-Dot and DNA Tracer Experiments (Adam Hawkins and Yuran Zhang, Stanford)
- Thermal Retardation Calculations (Curt Oldenburg and Chris Doughty, LBNL)
- Fractures and Features Catalog (Tom Doe, TDoeGeo) or Bill Roggenthen, SDSMT)
- CDFN for the ERT Characterization @ Notch 1 Experiment

Teleconference #60: November 13, 2018

- Needs Statement (Tim Kneafsey, LBNL)
- Field Call Debriefing (Jeff Burghardt, PNNL)
- Fractures and Features Catalog (Tom Doe, TDoeGeo)
- CDFN for the ERT Characterization @ Notch 1 Test (EGS Collab MSWG)

Teleconference #61: November 27, 2018

- Field Call Debriefing
- CDFN for the ERT Characterization @ Notch 1 Test
- Water mass balance (Mark White, PNNL)
- Tracer Breakthrough Curves (Adam Hawkins and Yuran Zhang, Stanford)
- Seismic Event Locations (Martin Schoenball, LBNL)
- Network Development (Interactive session, MSWG)
- Fracture Visualization (Tom Doe, TDoeGeo and Paul Schwering, SNL)
- Fracture Properties and Local Stress (Ankush Singh, Stanford)

Teleconference #62: December 4, 2018

- Field Call Debriefing
- CDFN Rollout (Paul Schwering, SNL)
- Statistical Analysis of Borehole Designs on the 4100 Level (Luke Frash, LANL)
- Production Packer Positions and Fracture P-122 (Hari Neupane, INL)

Teleconference #63: December 18, 2018

- Field Call Debriefing
- Seismic Characterization (Paul Schwering, SNL)
- Production Packer Positions and Fracture P-122 (Hari Neupane, INL)
- Formal Jetting Analysis (Pengcheng Fu, LLNL, Joe Morris, LLNL, and Yves Gugliemi, LBNL)
- Sneak Preview of Tracer Modeling at LLNL (Hui Wu, LLNL)
- Seismic Events Update (Martin Schoenball, LBNL)

Teleconference #64: January 8, 2019

- Field Call Debriefing (Jeff Burghardt, PNNL)
- Test Results and Modeling Case (Ahmad Ghassemi, OU)
- Brute-force, Monte Carlo Modeling of Conservative Tracer Tests in EGS Collab Experiment I (Hui Wu, Pengcheng Fu, and Joe Morris, LLNL)

Teleconference #65: January 15, 2019

- Field Call Debriefing (Mark White, PNNL)
- Fat Crayon Toolkit (Joe Morris, LLNL)
- Sewer Camera Analysis from Hydraulic Characterization on Dec. 21 (Pengcheng Fu, LLNL)
- Temperature Profiles around the West Access Drift: Comparison of Observations and Simulations (Mark White, PNNL)

Teleconference #66: January 29, 2019

- Field Call Debriefing (Mark White, PNNL)
- Stanford EGS Collab Meeting (Mark White, PNNL)
- Temperature Profiles around the West Access Drift: Comparison of Observations and Simulations (Mark White, PNNL)
- A Theoretical Study on Fracture-Matrix Heat Exchange Area (Quanlin Zhou, LBNL)

Teleconference #67: February 5, 2019

- Field Call Debriefing (Parker Sprinkle, PNNL)
- Geothermal Data Repository Submission Demo (Jon Weers, NREL)
- Tracer History Match and Thermal Breakthrough Forecast (Phil Winterfeld, CSM)

Teleconference #68: February 19, 2019

- Field Call Debriefing – Mark White (PNNL)
- FracMan Geomechanical Capabilities - Aleta Finnila (Golder Associates, Inc.)

Teleconference #69: February 19, 2019

- Field Call Debriefing – Mark White (PNNL)
- Pore Pressure and Stress Distribution Mini-Symposium - Pengcheng Fu (LLNL) and Jeff Burghardt (PNNL)

Teleconference #70: March 5, 2019

- Field Debriefing (Mark White, PNNL)
- Pore Pressure History and Flow Impedance (Mark White, PNNL)
- Simulation of Stress around Pressurized Fractures (Mark McClure, McClure Geomechanics)
- Injection Pressure History (Mathew Ingraham, SNL)
- Natural and Hydraulic Fracture Stress Interactions (Jeff Burghardt, PNNL)
- Mental picture will be posted on the Hypothesis Notebook
- Stress Shadowing (Ahmad Ghassemi or graduate student, OU)

Teleconference #71: March 19, 2019

- Field Debriefing (Mark White, PNNL)
- Poroelastic Analysis (Pengcheng Fu, LLNL)
- Pore Pressure History and Leakoff with Geomechanics (Mark White, PNNL)
- NETL Core Scanning (Dustin Crandall, NETL)
- Geochemical Modeling of Fracture and Matrix Flow (Eric Sonnenthal, LBNL)

Teleconference #72: March 26, 2019

- Field Debriefing (Mark White, PNNL)
- Observations from Field Tests (Pengcheng Fu, LLNL)
- Time-Lapse ERT (Tim Johnson, PNNL)

Teleconference #73: April 2, 2019

- Field Debriefing (Mark White, PNNL)
- GDR Submission Review (Jon Weers, NREL)
- Pressure Boundary Condition Simulations w/ FracMan (Tom Doe, TDoeGeo)

Teleconference #74: April 9, 2019

- Field Debriefing (Mark White, PNNL)
- Discretization of the CDFN and Modeling Approaches (Mark White, PNNL)
- Particle Tracking Simulations on the CDFN (Nataliia Makedonska, LANL)
- Continuum Modeling with PFLOTRAN (Elchin Jafarov, LANL)

Teleconference #75: April 16, 2019

- Field Debriefing (Pengcheng Fu, LLNL)
- Time-lapse Seismic Imaging of Hydraulic Fracturing at Sanford Underground Research Facility Using Continuous Active Source Seismic Monitoring (Colton Medler, SDSMT)

Teleconference #76: April 30, 2019

- Field Debriefing (Mark White, PNNL)
- C-Dots Tracer Test on 04/25 (Hari Neupane, INL)
- Experimental Epochs (Pengcheng Fu, LLNL)

Teleconference #77: May 7, 2019

- Field Debriefing (Mark White, PNNL)
- Open Discussions
 - Experimental Epochs
 - Common Discrete Fracture Network
 - Simulation Progress Reports

Teleconference #78: May 14, 2019

- Field Debriefing (Mark White, PNNL)
- Phenyl Acetate Tracer Test (Adam Hawkins, Stanford)
- Status Reports on Embedded Fracture Modeling Approaches
 - TOUGH2-CSM (Koenraad Beckers, CSM)
 - STOMP-GT (Mark White, PNNL)
 - LLNL Modeling Update (Pengcheng Fu, LLNL)

Teleconference #79: May 21, 2019

- Field Debriefing (Tim Kneafsey, LBNL)
- DTS Analysis (Pengcheng Fu, LLNL)
- Flow Paths to E1-PDT from ERT (Tim Johnson, PNNL)
- Slip Tendencies on Mapped Fractures on the 4100 Level (Ankush Singh, Stanford)
- Update on Simulation Activities at OU (Ahmad Ghassemi, OU)

Teleconference #80: June 4, 2019

- Field Debriefing (Paul Schwering, SNL)
- Updated Stochastic Modeling Results on C-Dot Tracer Tests (Hui Wu, LLNL)
- Thermal Breakthrough Analysis (Chris Doughty, LBNL)
- Mechanism for E1-PB Temperature Response (Joe Morris, LLNL)

Teleconference #81: June 11, 2019

- Latest News (Paul Schwering, SNL)
- Field Debriefing (Mark White, PNNL)
- Thermal Breakthrough Analysis (Tom Doe, TDoeGeo)
- DTS Analysis (Pengcheng Fu, LLNL)
- Provide Advice on Chilled Water Test Duration

Teleconference #82: July 9, 2019

- International Partnership for Geothermal Technologies (IPGT) and American Rock Mechanics Association (ARMA) Meeting Reviews (Tim Kneafsey, LBNL)
- Field Debriefing (Mark White, PNNL)
- Simulation of the Thermal Response in E1-PDT (Hui Wu and Pengcheng Fu, LLNL)

Teleconference #83: July 16, 2019

- Neutrino Day (Paul Schwering, SNL and Craig Ulrich, LBNL)
- Field Debriefing (Mark White, PNNL)
- The Case For Planar Fracture Models (Mark McClure, ResFrac)
- Preliminary Recent Simulation Results (Hui Wu and Pencheng Fu, LLNL)

Teleconference #84: July 23, 2019

- Field Debriefing (Mark White, PNNL)
- Demo of Recent Changes/Improvements to OpenEI (Jon Weers, NREL)
- Preliminary Recent Simulation Results (Hui Wu and Pencheng Fu, LLNL)
- 3D Common DFN Thermal-Hydro-Transport Simulations (Elchin Jafarov, Nataliia Makedonska, and Lianjie Huang, LANL)

Teleconference #85: July 30, 2019

- Field Debriefing (Mark White, PNNL; Hari Neupane, INL; and Pengcheng Fu, LLNL)
- Connections between Rock Fabric and Fracture Trajectory (Pengcheng Fu, LLNL)
- Preliminary Modeling of the Thermal Test (Chris Doughty, LBNL)
- Rescaling Methods for 3D Common DFN Thermal-Hydro-Transport Simulations (Nataliia Makedonska, LANL)

Teleconference #86: August 13, 2019

- Field Debriefing (Mark White, PNNL)
- Preliminary Modeling of the Thermal Test (Chris Doughty, LBNL)
- Seismic Imaging and Automatic Seismic Phase Picking using Machine Learning (Chengping Chai and Monica Maceira, ORNL)
- Rescaling Methods for 3D Common DFN Thermal-Hydro-Transport Simulations (Elchin Jafarov, LANL)

Teleconference #87: August 20, 2019

- Field Debriefing (Mark White, PNNL)
- Data Foundry Stress Measurements (Paul Schwering, SNL)
- TV4100 Stress Measurement Overview (Tom Doe, TDoeGeo)
- Gamma Ray Scans of Core Samples from TestBed 1 (Dustin Crandall, NETL)

- Tracer Test Results from the Chilled Water Test (Hari Neupane, INL)

Teleconference #88: August 27, 2019

- Field Debriefing and Simulation Parameter Set (Mark White, PNNL)
- Exploratory Simulations of Thermal Breakthrough via the Embedded Fracture Approach (Mark White, PNNL)
- Best Appropriate Science Prior to Leaving the Experimental Site on the 4850 Level (Tim Kneafsey, LBNL and Doug Blankenship, SNL)

Teleconference #89: September 24, 2019

- Field Debriefing and Overview of the Hellisheiði Power Station, Iceland (Mark White, PNNL)
- Update on Fluid Chemistry and Biology from Test Bed 1 (Yuran Zhang, Stanford)
- Analysis of EGS-Collab Tracer and Thermal Tests using Analytical and Numerical Tools (Bud Johnston, Koenraad Beckers, Nicole Taverna, NREL and Phil Winterfeld, Yu-Shu Wu, CSM)

Teleconference #90: October 1, 2019

- Field Debriefing (Mark White, PNNL)
- Simulations of the 3D Geothermal Heat Flow in Fractured Media (Elchin Jafarov and Nataliia Makedonska, LANL)
- EGS Collab Core Logging (Dustin Crandall and Tom Paronish, NETL)
- State-of-Modeling Discussion (Mark White, PNNL)

Teleconference #91: October 15, 2019

- Field Debriefing (Mark White, PNNL)
- TV4100 Borehole Logging and TestBed 1 Repairs (Craig Ulrich, LBNL and Jeff Burghardt, PNNL)
- Progress Report on the Embedded Fracture Modeling Approach for TestBed 1 (Mark White, PNNL)

Teleconference #92: October 29, 2019

- Field Debriefing (Alain Bonneville, PNNL)
- ISC Experiment at Grimsel, Switzerland (Bernard Brixel, ETH Zurich)
- New Visualizations of DTS Data (Pengcheng Fu, LLNL)
- Simulation Progress Report from LANL (Elchin Jafarov and Nataliia Makedonska, LANL)

Teleconference #93: November 12, 2019

- Milestones (Tim Kneafsey, LBNL)
- Field Debriefing (Mark White, PNNL)
- Overview of the SIMFIP Measurements in TV4100 (Pat Dobson, LBNL)
- Interpretation of the Fiber-Based Strain Data (Veronica Rodriguez Tribaldos and Martin Schoenball, LBNL)
- Simulation Progress Report from PNNL (Mark White, PNNL)

Teleconference #94: November 26, 2019

- Notes from the SURF meeting (Tim Kneafsey, LBNL)
- Field Debriefing (Mark White, PNNL)
- Visualization of the DTS Data (Pengcheng Fu, LLNL)
- Fat Crayon Drawings and Design Concepts for Experiment 2 on the 4100 Level (Joe Morris, LLNL)
- Numerical Simulation and Experimental Updates on Fracture Stimulation and Propagation (Ahmad Ghassemi, OU)

Teleconference #95: December 17, 2019

- Field Debriefing (Mark White, PNNL)
- Numerical Simulation and Experimental Updates on Fracture Stimulation and Propagation (Ahmad Ghassemi, OU)
- Thermal Modeling of Cooling Along E1-I and Comparison against DTS Response of the Monitoring Boreholes (Pengcheng Fu, LLNL)

Teleconference #96: January 7, 2020

- 4100 Experiment Design (Joe Morris, LLNL and Paul Schwering, SNL)
- Digital Model Demo (Pengcheng Fu, LLNL)
- Field Debriefing (Mark White, PNNL)
- Temperature Records for Experiment 1 (Chris Strickland, PNNL)

Teleconference #97: January 21, 2020

- Field Debriefing (Mark White, PNNL)
- 4100 Site Plan Update (Tim Kneafsey, LBNL)
- Surface Area Calculations for Experiment 1 Testbed (Pengcheng Fu, LLNL)
- Tracer Experiment Review for Experiment 1 Testbed (Earl Mattson and Hari Neupane, INL)

Teleconference #98: February 4, 2020

- Field Debriefing (Mark White, PNNL)
- Fracture Toughness in the Poorman for Different Crack Orientations Relative to Foliation (Hiroki Sone and Herb Wang, U. Wisconsin)
- Anisotropic Elastic Properties from the Campaign Cross-Borehole Seismic Data (Kai Gao, LANL)
- Toward Validation (Mark White, PNNL)

Teleconference #99: March 3, 2020

- Field Debriefing (Mark White, PNNL)
- New E1 Testbed Fracture Model (Pengcheng Fu, LLNL)
- E1 Shut-in Tests Interpretation and Discussion (Earl Mattson, Mattson Hydrology)
- Post Chilled Water Circulation Test Borehole Logging (Craig Ulrich, LBNL)

Teleconference #100: March 31, 2020

- Field Debriefing (Paul Schwering, SNL)
- Wiki Progress Report (Notes from Pengcheng Fu, LLNL)
- Review of the Hydrologic Response during the Shut-In Tests (Mark White, PNNL)
- Updates on the Stochastic Modeling of C-Dots Tracer Tests at EGS Collab Experiment 1 Testbed (Hui Wu, LLNL)

Teleconference #101: April 14, 2020

- TV4100 Core Geomechanical and Hydrological Properties by Triaxial Direct Shear (Luke Frash, LANL)
- Discussion on the State of Fractures in Experiment 1 Test Bed (Jeff Burghardt, PNNL)
- Project Status Report (Tim Kneafsey, LBNL)

Teleconference #102: April 28, 2020

- Snapshots of Stay Home, Stay Healthy Life (Luke Frash, LANL, and Earl Mattson, Mattson Hydrology, LLC)
- SIMFIP Tool Results and Interpretations from TV4100 (Yves Guglielmi, LBNL)
- 4100 Stress Orientations and Fracture Slip Tendency (Ankush Singh, Stanford)
- Tracer Metadata Template (Earl Mattson, Mattson Hydrology, LLC)

Teleconference #103: June 08, 2020

- Field Debriefing (Mark White, PNNL)
- State of the Fractures in Experiment 1 Testbed (Jeff Burghardt, PNNL)
- Novel Model Approach to Resolve the Near-well Fracture Propagation Progress (Pengcheng Fu and Hui Wu, LLNL)

Teleconference #104: July 7, 2020

- Borehole Layout for Experiment 2 Testbed (Tim Kneafsey, LBNL)
- Fracture Propagation under the Thermally Altered Stress State in Experiment 2 Testbed (Pengcheng Fu and Hui Wu, LLNL)
- Anticipated Tilt Meter Responses in TV4100 from Fracturing in Experiment 2 Testbed (Pengcheng Fu and Hui Wu, LLNL)
- MEQ Event Location Error Analysis for Experiment 2 Testbed (Lianjie Huang, LANL)

Teleconference #105: July 21, 2020

- Scientific findings to engineering realities - project integration (Tim Kneafsey, LBNL)
- Interpretation of the DAS and DSS data from Experiment 1 (Veronica Rodriguez Tribaldos and Chet Hopp, LBNL)
- Updates of Hydraulic Fracturing Simulation for Experiment 2 (Hui Wu and Pengcheng Fu, LLNL)

Teleconference (Special): August 18, 2020

- EGS Collab Wiki Overview (Sallie Johnson, LBNL)

Teleconference #106: September 1, 2020

- Field Call Debriefing (Mark White, PNNL)
- Coupled THM Modeling for the Fallon FORGE Site (Eric Sonnenthal, LBNL)

Teleconference #107: September 15, 2020

- Field Call Debriefing

- 3-C Accelerometer Orientation Determination in the first EGS Collab Testbed and Moment Tensor Inversion for Microseismic Events (Jiaxuan Li, LANL)
- Time-lapse Changes of Anisotropic Rock Properties Caused by Hydraulic Fracture Stimulations at the First EGS Collab Testbed (Zongcai Feng, LANL)

Teleconference #108: September 29, 2020

- Field Call Debriefing (Paul Schwering, SNL)
- RESPEC directional heating- and cooling-induced fracturing technology for near-wellbore stress estimation (Sam Voegeli, RESPEC)

Teleconference #109: October 13, 2020

- Numerical Investigations of Heat Exchange in Reservoirs with Spatially-Varying Fracture Apertures (Rita Okoroafor, Stanford)
- Preparations for a Virtual EGS Collab Team Meeting (Tim Kneafsey, LBNL)

Teleconference #110: January 19, 2021

- Field debriefing (Mark White, PNNL)
- Numerical simulations of fracture initiation and propagation within the Experiment 2 testbed on the 4100 Level (Hui Wu and Pengcheng Fu, LLNL)

Teleconference #111: February 2, 2021

- Field debriefing (Mark White, PNNL)
- Numerical Investigations of Fracture Initiation in Experiment 2 Testbed on the 4100 Level (recap and discussions) (Hui Wu and Pengcheng Fu, LLNL)
- Novel Interpretation of the ERT Response during the Stimulation of the Experiment 1 Testbed on the 4850 Level (Tim Johnson, PNNL)

Teleconference #112: March 9, 2021

- Field debriefing (Mark White, PNNL)
- History matching and thermal performance modeling approaches for EGS Collab Experiment 1 (Hui Wu and Pengcheng Fu, LLNL)

Teleconference #113: March 23, 2021

- Field debriefing (Mark White, PNNL)
- Experiment 1 Flow and Stimulation Data Rollout (Pengcheng Fu, LLNL and Hunter Knox, PNNL)

Teleconference #114: April 6, 2021

- Field Debriefing (Tim Kneafsey, LBNL)
- 4100 Wireline Logging Data (Craig Ulrich, LBNL)
- Novel EGS Modeling Approach (Luke Frash, LANL)

Teleconference #115: April 20, 2021

Experiment 2 Testbed Construction Status (Paul Schwering, SNL)

- Updates on Water Balance Measurements on the 4100 Boreholes (Tom Doe, TDoeGeo)
- Updates on Thermally Induced Borehole Breakout Research on the 4100 (Sam Voegeli, RESPEC)

Teleconference #116: May 4, 2021

- Field debriefing (Mark White, PNNL)
- Updates on Water Balance Measurements on the 4100 Boreholes (Tom Doe, TDoeGeo)
- Updates on Thermally Induced Borehole Breakout Research on the 4100 (Sam Voegeli, RESPEC)

Teleconference #117: May 18, 2021

- Field debriefing (Mark White, PNNL)
- Stereonet Plots of Poles to Fracture Planes - Current Understanding (Bill Roggenthen, SDSMT)
- Updates on Water Balance Measurements on the 4100 Boreholes (Tom Doe, TDoeGeo)
- Analysis of Probably Stress States on the 4100 (Hiroki Sone, Wisc.)

Teleconference #118: June 29, 2021

- Welcome REPSOL
- Field debriefing (Mark White, PNNL)
- Updates on Water Balance Measurements on the 4100 Boreholes (Tom Doe, TDoeGeo)
- Geology and Geological Engineering Master of Science Research Briefing (Carson Reimers, SDSMT)
- Fat-Crayon Toolbox Updates (Joe Morris, LLNL)
- Stochastic Stress Analysis for Experiment 2 Testbed (Jeff Burghardt, PNNL)

Teleconference #119: July 13, 2021

- Field debriefing (Paul Schwering, SNL)
- Recent Progress with the Triaxial Direct-shear Measurements for the Experiment 1 & 2 Sites (Meng Meng and Luke Frash, LANL)

Teleconference #120: September 7, 2021

- Field Update (Mark White, PNNL)
- Stochastic Stress Analysis for Experiment 2 Testbed (Jeff Burghardt, PNNL)

Teleconference #121: September 21, 2021

- Field Update (Mark White, PNNL)
- FY22 EGS Collab Milestones (Tim Kneafsey, LBNL)
- Hydraulic Characterization Analysis (Tom Doe, TDoeGeo)
- Petrophysical and Geomechanical Behaviors of Natural Hydrate-Bearing Sediments (Yi Fang, SDSMT)

Teleconference #122: October 19, 2021

- Field Update (Mark White, PNNL)
- REPSOL Overview and Geomechanics Technology (Josv© M. Segura Serra, REPSOL)

Teleconference #123: November 16, 2021

- Field Update (Mark White, PNNL)
- 4100 Drift Tour (Paul Schwering, SNL)
- Flow and Stimulation System Capabilities (Mathew Ingraham, SNL and Chris Strickland, PNNL)

Teleconference #124: December 14, 2021

- Field Update (Mark White, PNNL)
- Stimulation Protocol Development (Jeff Burghardt, PNNL)
- GeoDT Application Attempt to EGS Collab E2 (Luke Frash, LANL)

Teleconference #125: January 18, 2022

- Field Update (Paul Schwering, SNL)
- Geothermal and Geomechanical Modeling Approaches and Tools at Baker Hughes (Ghazal Izadi, Baker Hughes)
 - Geothermal introduction
 - Integrated geothermal workflows and software modeling capabilities for resource characterization
 - Geomechanics and risks assessment and mitigation
 - Reservoir engineering/simulation for resource potential

Teleconference #126: February 15, 2022

- Field Update (Mark White, PNNL)
- Stimulation Protocol Development (Jeff Burghardt, PNNL)
- GeoDT Application Attempt to EGS Collab E2 (Luke Frash, LANL)

Teleconference #127: March 15, 2022

- Field Update (Mark White, PNNL)
- Stimulation Protocol Overview (Jeff Burghardt, PNNL)
- Thermal Breakthrough Simulations (Mark White, PNNL)
- Experiment 2 and 3 Simulations (Luke Frash, LANL)

Teleconference #128: June 7, 2022

- Field Update (Paul Schwering, SNL and Tim Kneafsey, LBNL)
 - Flow test configuration, timeline, and observations
 - Tracer injection summary, timeline, and preliminary observations
 - Summary of the thermal circulation test initiation
- Preparatory Modeling (Mark White, PNNL)

Teleconference #129: June 21, 2022

- Field Update (Mark White, PNNL)
- Stimulation Analysis (Jeff Burghardt, PNNL)

Teleconference #130: October 25, 2022

- Synopsis of modeling efforts against EGS Collab Experiments 1 and 2 (Mark White, PNNL)
- EGS Design Optimization: Collab, FORGE, and Beyond -- Lessons Learned and a Path to Make EGS the Real Deal (Luke Frash, LANL)
- Discussion on modeling objectives and challenges for Experiment 2 (Collective)