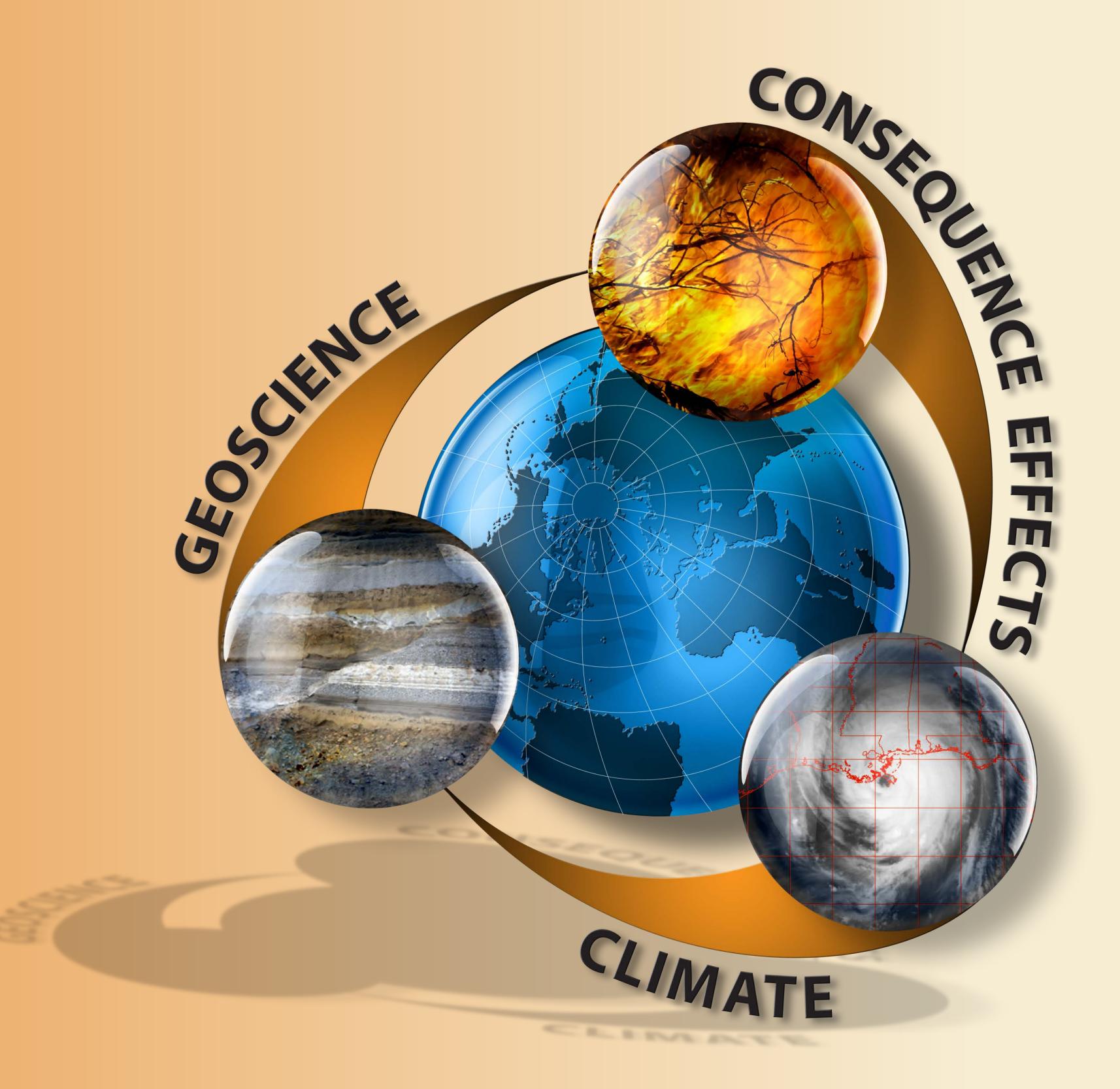


Sandia National Laboratories



We lead the nation in addressing the complex intersection between the Earth and engineered environments, providing technical solutions to ensure our nation's strength and security.





Monday, December 12

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
194673	Quantifying the impacts of parametric uncertainty at FLUXNET sites in the ACME land model		Moscone West	2004	Oral	Khachik	Sargsyan
185945	Next-Generation Climate Modeling Science Challenges for Simulation, Workflow and Analysis Systems	1:40 PM	Moscone West	2000	Oral	Mark	Taylor
133350	Alaska to understand the lower Arctic	2:10 PM	Moscone South	310	Oral	Mark Albert	lvey Bendure
180347	Shock and Release Data on Forsterite (Mg ₂ SiO4) Single Crystals	2:40 PM	Moscone South	301	Oral	Seth Joshua Luke Thomas	Root Townsend Shulenburger Mattsson
155158	Revisiting strategies for detecting infrasound events	10:30 AM	Moscone South	Poster Hall	Poster	Stephen	Arrowsmith
159062	Shock Temperatures of Major Silicates in Rocky Planets	12:00 PM	Moscone South	Poster Hall	Poster	Seth Thomas	Root Mattsson
174041	Imaging Fractures Through Relative Velocity Change Using Ambient Seismic Noise And Distributed Acoustic Sensing (DAS): A SUBTER Pilot Study At Blue Canyon Dome, Socorro NM	12:15 PM	Moscone South	Poster Hall	Poster	Hunter Mark Dennis	Knox Grubelich King
122097	Using bets to reveal people's opinions on climate change	1:40 PM	Moscone South	Poster Hall	Poster	Mark	Boslough
158025	Evaluating Approaches to a Coupled Model for Arctic Coastal Erosion, Infrastructure Risk, and Associated Coastal Hazards	2:10 PM	Moscone South	Poster Hall	Poster	Jennifer Diana Jesse Matthew	Frederick Bull Roberts Thomas
182334	Experiments on Adaptive Self-Tuning of Seismic Signal Detector Parameters	2:40 PM	Moscone South	Poster Hall	Poster	Timothy Hunter Christopher Eric Matthew Benjamin	Draelos Know Young Chael Peterson Lawry
139366	Improved statistical assessment of a long-term groundwater-quality dataset with a non-parametric permutation method	2:40 PM	Moscone South	Poster Hall	Poster	Matthew	Thomas
168754	Testing the Feasibility of Imaging a Complex, Highly Conductive Environment with Field Instruments via a Three-Dimensional Electromagnetic Induction Forward Solver	4:55 PM	Moscone South	Poster Hall	Poster	Chester	Weiss
190788	kISMET: Stress and fracture characterization in a deep mine	6:25 PM	Moscone South	Poster Hall	Poster	Moo	Lee
159169	On Subsurface Fracture Opening and Closure	7:25 PM	Moscone South	Poster Hall	Poster	Yifeng	Wang
166549	Asteroid-Generated Tsunami and Impact Risk	7:25 PM	Moscone South	Poster Hall	Poster	Mark Barbara	Boslough Jennings
188551	Aeras: A Performance Portable, High- Resolution Global Atmosphere Model		Moscone South	Poster Hall	Poster	William Irina	Spotz Tezaur
159508	Characterization Efforts in a Deep Borehole Field Test	8:25 PM	Moscone South	Poster Hall	Poster	Kristopher David Geoff Ernest Patrick	Kuhlman Sassani Freeze Hardin

Patrick

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Tuesday, December 13

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
173649	A Pilot Study to Evaluate California's Fossil Fuel CO ₂ Emissions Using Atmospheric Observations	4:30 PM	Moscone West	3007	Oral	Ray Brian Hope	Bambha LaFranchi Michelsen
183330	Characterizing the Vertical Distribution of Aerosols using Ground-based Multiwavelength Lidar Data	5:35 PM	Moscone West	3012	Oral	John	Goldsmith
164339	Insights into seasonal active layer dynamics by monitoring relative velocity changes using ambient seismic noise	10:30 AM	Moscone South	Poster Hall	Poster	Stephanie Hunter Robert	James Knox Abbott
186477	Optimization of Sensor Monitoring Strategies for Emissions	11:15 AM	Moscone South	Poster Hall	Poster	Katherine Carl	Klise Laird
166256	A Variable Resolution Atmospheric General Circulation Model for a Megasite at the North Slope of Alaska	11:30 AM	Moscone South	Poster Hall	Poster	Lauren Erika Oksana Benjamin Matthew	Dennis Roesler Guba Hillman McChesney
193770	A Three-dimensional, Implicit, Thermo-mechanical Computational Model for Polythermal Ice	2:00 PM	Moscone South	Poster Hall	Poster	Mauro	Perego
161898	Ecohydrological and Socioeconomic Relationships in Disturbed Woodland Ecosystems of the Western U.S.	2:40 PM	Moscone South	Poster Hall	Poster	Vincent	Tidwell
149318	PFLOTRAN Verification: Development of a Testing Suite to Ensure Software Quality	2:55 PM	Moscone South	Poster Hall	Poster	Glenn Jennifer	Hammond Frederick

Wednesday, December 14

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
168927	Energy-Water-Land-Climate Nexus: Modeling Impacts from the Asset to Regional Scale	2:25 PM	Moscone West	3003	Oral	Vincent	Tidwell
164024	Utility of Characterizing and Monitoring Suspected	2:48 PM	Moscone South	307	Oral	David Robert Stephen Terry Daniel	Yocky Riley Dauphin Calloway Wahl
166154	A Multiscale Simulation Framework to Investigate Hydrobiogeochemical Processes in the Groundwater- Surface Water Interaction Zone	4:00 PM	Moscone West	3018	Oral	Glenn	Hammond
179007	Water Partitioning Between Bridgmanite, Postperovskite, and Periclase in the Lowermost Mantle.	4:00 PM	Moscone South	301	Oral	Joshua	Townsend
147711	Efficiency and flexibility using implicit methods within atmosphere dycores	4:30 PM	Moscone West	3008	Oral	Mark	Taylor
182235	Flood Dynamics Using High- Resolution Data and Probabilistic Assessment of Uncertainty	4:45 PM	Moscone West	3024	Oral	Khachik	Sargsyan
168689	From Ground Truth to Space: Surface, Subsurface and Remote Observations Associated with Nuclear Test Detection	5:23 PM	Moscone South	307	Oral	Julia Dylan David	Craven Anderson Yocky
118654	Effect of grain size and angularity on seismic velocity in unconsolidated sediment	8:00 AM	Moscone South	Poster Hall	Poster	Nedra	Bonal
176474	Laboratory Noble Gas Migration Experiments through Rock	8:30 AM	Moscone South	Poster Hall	Poster	Scott Avery Joshua	Broome Cashion Feldman
165140	Quantifying Hydro- biogeochemical Model Sensitivity in Assessment of Climate Change Effect on Hyporheic Zone Processes	8:45 AM	Moscone South	Poster Hall	Poster	Glenn	Hammond
177323	Reducing Errors in Satellite Simulated Views of Clouds with an Improved Parameterization of Unresolved Scales	9:15 AM	Moscone South	Poster Hall	Poster	Benjamin	Hillman
166813	Information Criterion Comparison of Two Deep Convection Ensembles in the ACME Climate Model	9:30 AM	Moscone South	Poster Hall	Poster	Kenny Bert	Chowdhary Debusschere
137769	Using multi-chain Markov chain Monte Carlo methods to calibrate geoscientific models	9:45 AM	Moscone South	Poster Hall	Poster	Jaideep Laura	Ray Swiler
178733	Value of Spaceborne Remotely Sensed Data Products in the Context of the Launch Phase of an On-Site Inspection	10:00 AM	Moscone South	Poster Hall	Poster	Julia	Craven
184358	Coupling a three-dimensional subsurface flow model with a land surface model to simulate stream-aquifer-land interactions	10:15 AM	Moscone South	Poster Hall	Poster	Glenn	Hammond
127731	A Trends Review of Geophysics Research in Nuclear Explosion Monitoring	10:45 AM	Moscone South	Poster Hall	Poster	Megan Bion	Slinkard Merchant
142472	Investigating the Relationship Between Waveform Correlation and Seismic Source Mechanisms	1:15 PM	Moscone South	Poster Hall	Poster	Megan	Slinkard
160984	Weighted Iterative Bayesian Compressive Sensing (WIBCS)	4:40 PM	Moscone South	Poster Hall	Poster	Khachik Cosmin Bert Habib	Sargsyan Safta Debusschere Najm

Thursday, December 15

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
184387	Identifying Electricity Capacity at Risk to Changes in Climate and Water Resources in the United States		Moscone West	3003	Oral	Vincent	Tidwell
192573	Improved Carbon Flux Observations over Urban Areas Using Carbonyl Sulfide (COS) to Differentiate Contributions from Biosphere	11:45 AM	Moscone West	2006	Oral	Brian Ray Hope	LaFranchi Bambha Michelsen
149795	Imaging CO ₂ reservoirs using muons borehole detectors	5:40 PM	Moscone South	307	Oral	Nedra	Bonal
125144	Hexahedral Finite Element Mesh Capturing Realistic Geometries of Bayou Choctaw Strategic Petroleum Reserve	8:00 AM	Moscone South	Poster Hall	Poster	Byoung-Yoon Barry Steven	Park Roberts Sobolik
134390	Numerical Modeling of ROM Panel Closures at WIPP	8:30 AM	Moscone South	Poster Hall	Poster	Courtney	Herrick
169011	Evaluating an Explicitly Coupled 3-D Soil Thermal-Hydrology and Carbon Nitrogen Reactive Transport Land Surface Model - CLM-PFLOTRAN		Moscone South	Poster Hall	Poster	Glenn	Hammond
162375	Performance Assessment of a Generic Repository in Bedded Salt for DOE-Managed Nuclear Waste	9:00 AM	Moscone South	Poster Hall	Poster	Emily S. David Glenn Jennifer Paul	Stein Sevougian Hammond Frederick Mariner
163760	Numerical Modeling of Thermal- Hydrology in the Near Field of a Generic High-Level Waste Repository		Moscone South	Poster Hall	Poster	Edward Teklu Heeho	Matteo Hadgu Park
165193	Integration of PFLOTRAN into Waste Isolation Pilot Plant Performance Assessment and Human Borehole Intrusion Cases	9:30 AM	Moscone South	Poster Hall	Poster	Heeho	Park
161300	Real-time noble gas release signaling rock deformation	9:45 AM	Moscone South	Poster Hall	Poster	Stephen	Bauer
193453	Using Helium as a Tracer of Dynamic Rock Deformation	1:55 PM	Moscone South	Poster Hall	Poster	Stephen	Bauer
124998	True Triaxial Failure of Granite: Implications for Deep Borehole Waste Disposal	2:10 PM	Moscone South	Poster Hall	Poster	Michelle Mathew	Williams Ingraham
194748	Development of a Pilot Learning Module on Water Energy Nexus Using a Data-Analytic and Hypothesis-Driven Approach		Moscone South	Poster Hall	Poster	Vincent	Tidwell
136353	Assessing the fracture strength of geological and related materials via an atomistically based J-integral	2:40 PM	Moscone South	Poster Hall	Poster	Reese Louise Jessica	Jones Criscenti Rimsza
191189	On the Edge: the Impact of Climate Change, Climate Extremes, and Climate-driven Disturbances on the Food-Energy-Water Nexus in the Colorado River Basin Waste Not, Want Not: Role of	3:55 PM	Moscone South	Poster Hall	Poster	Vincent	Tidwell
164112	Waste Not, Want Not. Role of Waste Generation, Management, and Treatment in Food-Energy-Water Nexus Interactions	3:55 PM	Moscone South	Poster Hall	Poster	Vincent	Tidwell
136335	Quantifying hyporheic exchange dynamics in a highly regulated large river reach	3:55 PM	Moscone South	Poster Hall	Poster	Glenn	Hammond

Friday, December 16

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
135915	Permanent Disposal of Nuclear Waste in Salt	8:00 AM	Moscone South	301	Oral	Francis	Hansen
177119	Distributed Fiber Optic Sensing of Earthquake Wavefields	8:00 AM	Moscone South	307	Oral	Stephanie	James
136492	Pore-scale modeling of moving contact line problems in immiscible two-phase flow. Injection-induced earthquakes on	8:35 AM	Moscone West	3014	Oral	Alec Mario David	Kucala Martinez Noble
178176	basement faults caused by injection into sedimentary reservoirs	10:20 AM	Moscone South	301	Oral	Pania	Newell
181781	Outsized impacts of hyporheic exchange on coupled carbon and nitrogen cycling in river systems	11:05 AM	Moscone West	3020	Oral	Glenn	Hammond
179589	Changing summer basal traction of the Greenland Ice Sheet at high temporal resolution using inversion of GPS-derived surface speed	11:50 AM	Moscone West	3007	Oral	Mauro	Perego
126331	Recent Observational Efforts Using the DOE ARM Observatory at Oliktok Point, Alaska High-resolution, Antarctic Ice	1:40 PM	Moscone West	3002	Oral	Mark Albert	Ivey Bendure
141923	Sheet simulations forced by	1:40 PM	Moscone West	3007	Oral	Irina Mauro Andy	Tezaur Perego Salinger
179445	Fluid Interactions with Explosion-Induced Fractures	2:55 PM	Moscone West	3020	Oral	Scott	Broome
175290	Integrated Remote Sensing Modalities for Classification at a Legacy Test Site	3:10 PM	Moscone South	303	Oral	Dennis Dylan Julia	Lee Anderson Craven
139592	Results of a Study Demonstrating Automated Techniques for Waveform Correlation Applied to Regional Monitoring of Eastern Asia	4:15 PM	Moscone South	303	Oral	Amy Megan Christopher James	Sundermier Slinkard Young Perry
124974	AMF3 ARM's Research Facility and MAOS at Oliktok Point Alaska	8:00 AM	Moscone South	Poster Hall	Poster	Fred Mark Darielle Joe Daniel Erika	Helsel Ivey Dexheimer Hardesty Lucero Roesler
125010	Arctic Atmospheric Measurements Using Manned and Unmanned Aircraft, Tethered Balloons, and Ground-Based Systems at U.S. DOE ARM Facilities on the North Slope Of Alaska	8:15 AM	Moscone South	Poster Hall	Poster	Mark Erika Benjamin Darielle Jasper	Ivey Roesler Hillman Dexheimer Hardesty
144207	Plane Wave Electromagnetic Reflection and Transmission from a Thin Geologic Layer	8:30 AM	Moscone South	Poster Hall	Poster	David Chester	Aldridge Weiss
142214	Developing a weather observation routine during ICARUS	8:45 AM	Moscone South	Poster Hall	Poster	Mark Danielle	lvey Dexheimer
148594	Electromagnetic Measurements in an Active Oilfield Environment	8:45 AM	Moscone South	Poster Hall	Poster	Katherine Chester Kimberly David William	Aur Weiss Schramm Aldrigge O'rourke
133859	Numerical Investigation of Formation Thickness and Wellbore Orientation on Caprock Integrity During CO\$_{2}\$ Sequestration	8:45 AM	Moscone South	Poster Hall	Poster	Pania Mario	Newell Martinez
126216	Analysis of Mancos shale failure	8:45 AM	Moscone South	Poster Hall	Poster	Mathew Thomas Jason	Ingraham Dewers Heath
162206	The Need and Opportunity for an Integrated Research, Development and Testing Station in the Alaskan High Arctic	9:00 AM	Moscone South	Poster Hall	Poster	Jasper Fred Mark Dareille Daniel Albert Erika	Hardesty Helsel Ivey Dexheimer Lucero Bendure Roesler





Friday, December 16

Abstract ID	Abstract litle	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
164955	Constitutive Modelling for High Porosity Sandstone: Castlegate Sandstone	9:00 AM	Moscone South	Poster Hall	Poster	Mathew	Ingraham
185656	Multiscale Porosity and Mechanical Properties of Mancos Shale: Evaluation of REV and Scale Separation	9:00 AM	Moscone South	Poster Hall	Poster	Jason Thomas Hongkyu	Heath Dewers Yoon
139357	Rapid and Robust Cross- Correlation-Based Seismic Phase Identification Using an Approximate Nearest Neighbor Method	9:00 AM	Moscone South	Poster Hall	Poster	Rigobert Christopher Antonio Sanford Andre	Tibi Young Gonzales Ballard Encarnacao
139479	Characterization of Dilatant Shear Bands in Castlegate Sandstone Using Micro- Computed Tomography	9:15 AM	Moscone South	Poster Hall	Poster	Mathew	Ingraham
148486	Calibration and Recovery of Nuclear Test Seismic Ground- Motion Data from the Leo Brady Seismic Network	9:15 AM	Moscone South	Poster Hall	Poster	Brian Robert	Young Abbott
192976	The Effect of Hydrous Supercritical Carbon Dioxide on the Mohr Coulomb Failure Envelope in Boise Sandstone	9:30 AM	Moscone South	Poster Hall	Poster	Robert Thomas Anastasia	Choens Dewers Ilgen
148962	Surface-Wave Tomography of Yucca Flat, Nevada	9:30 AM	Moscone South	Poster Hall	Poster	Liam Robert Hunter Leiph Charles	Toney Abbott Knox Preston Hoots
146134	A DFN-based High Performance Computing Approach to the Simulation of Radionuclide Transport in Mineralogically Heterogeneous Fractured Rocks	9:45 AM	Moscone South	Poster Hall	Poster	Glenn	Hammond
149535	Developing and Validating Path- Dependent Uncertainty Estimates for use with the Regional Seismic Travel Time (RSTT) Model	9:45 AM	Moscone South	Poster Hall	Poster	Sanford	Ballard
150397	Atmospheric Model Effects on Infrasound Source Inversion from the Source Physics Experiments	10:00 AM	Moscone South	Poster Hall	Poster	Leiph Katherine	Preston Aur
152052	Finite-Difference Algorithm for 3D Orthorhombic Elastic Wave Propagation	10:30 AM	Moscone South	Poster Hall	Poster	Richard Leiph Davkd	Jensen Preston Aldridge
166025	Study of Transport Characteristics of Motile Microorganisms Using Micro- Scale Devices	11:30 AM	Moscone South	Poster Hall	Poster	Jennifer	Frederick
186596	Lithofacies and Diagenetic Controls on Formation-scale Mechanical, Transport, and Sealing Behavior of Caprocks: A Case Study of the Morrow shale and Thirteen Finger Limestone, Farnsworth Unit, Texas Automated Sensor Tuning for		Moscone South	Poster Hall	Poster	Jason Thomas	Heath Dewers
138640	Seismic Event Detection at a Carbon Capture, Utilization, and Storage Site, Farnsworth Unit, Ochiltree County, Texas	11:30 AM	Moscone South	Poster Hall	Poster	Hunter Timothy Mathew	Knox Draelos Peterson

Friday, December 16

Abstract ID	Abstract Title	Speaker Start Time	Property	Room	Session Type	Author First Name	Author Last Name
177001	Pore Structure and Diagenetic Controls on Relative Permeability: Implications for Enhanced Oil Recovery and CO2 Storage	11:45 AM	Moscone South	Poster Hall	Poster	Joshua Thomas Jason	Feldman Dewers Heath
198784	Role of Grain Crushing in the Alteration of Mechanical and Flow Properties of Sandstones during Mechanical Failure	11:45 AM	Moscone South	Poster Hall	Poster	Robert Thomas	Choens Dewers
178961	Numerical modeling of flow and transport in the far-field of a generic nuclear waste repository in fractured crystalline rock using updated fracture continuum model	12:15 PM	Moscone South	Poster Hall	Poster	Teklu Elena Katherine Yifeng	Hadgu Kalinina Klise Wang
179982	Spatially Correlated Geomaterials	1:00 PM	Moscone South	Poster Hall	Poster	Chester	Weiss
184156	Phase field modeling of crack propagations in fluid-saturated porous media with anisotropic surface energy	1:00 PM	Moscone South	Poster Hall	Poster	Hongkyu	Yoon
126428	Mechanical Stability of Fractured Rift Basin Mudstones: from lab to basin scale	1:00 PM	Moscone South	Poster Hall	Poster	Daniel	Collins
180349	Modelling Near-Surface Metallic	1:15 PM	Moscone South	Poster Hall	Poster	Christine Chester Jeffrey Jeffrey	Downs Weiss Bach Williams
166220	Use of Digital Volume Correlation to Measure Deformation of Shale Using Natural Markers	1:15 PM	Moscone South	Poster Hall	Poster	Thomas Enrico Mathew Carl	Dewers Quintana Ingraham Jacques
193759	Electrochemical Nanoparticle Injection Technology for Remediating Leaks	1:45 PM	Moscone South	Poster Hall	Poster	Pania Thomas	Newell Dewers
185336	Detecting seismic waves using a	2:15 PM	Moscone South	Poster Hall	Poster	Sophia Ronald Robert Jaideep Christopher Clifford	Lefantzi Brogan Forrest Ray Young Hansen
141733	Quantifying Hyporheic Exchanges in a Large Scale River Reach Using Coupled 3-D Surface and Subsurface Computational Fluid Dynamics Simulations	3:10 PM	Moscone South	Poster Hall	Poster	Glenn	Hammond
178205	Multiscale imaging of carbonate rocks and upscaling for digital rock physics	3:55 PM	Moscone South	Poster Hall	Poster	Hongkyu Thomas	Yoon Dewers
151832	Physics-based conduit models of dome extrusion: Steady-state	5:40 PM	Moscone South	Poster Hall	Poster	Andrew	Bradley
179498	atmospheric general circulation	6:10 PM	Moscone South	Poster Hall	Poster	Erika Peter Mark	Roesler Bosler Taylor