DUSEL S4 Working Groups

Baseline characterization and monitoring	Stephen Martel, U. of Hawaii, smartel@hawaii.edu	Characterization of the current state of subsurface conditions, monitoring of processes prior to ISEs. *Conditions and processes related to deformation, fluid flow, mass transport, chemical reactions, microbial distribution and reactions*
Ambient rock deformation processes	Herb Wang U. Wisconsin *wang@geology.wisc.edu*	Deformation processes occurring naturally or as a result of ambient conditions resulting from ongoing operations at the facility including excavation and dewatering. *e.g. Poroelastic processes, stress dependent permeability, natural seismicity, scaling of stress and deformation, biogeochemical reactions, microbial interactions, and related.*
Induced rock deformation processes	Leonid Germanovich *Ga Tech leonid@ce.gatech.edu*	Deformation processes induced by manipulating in situ conditions. *e.g. Fluid-driven and mixed mode propagation, fracture interaction, faulting, fracture energy scaling, thermal effects, healing, sealing and triggering, biogeochemical reactions, and microbial interactions, and related.*
Ambient flow, transport, diversity and activity	David Boutt *U. Mass dboutt@geo.umass.edu*	Flow, transport and reaction processes occurring naturally or as a result of ambient conditions at the facility. *e.g. Natural flow systems, permeability scaling, fracture connectivity and architecture, aqueous geochemistry, natural tracers, flow paths and rates, water ages, microbial activity and diversity, microbial interactions with subsurface facility, and related.*
Induced flow, transport and activity	Eric Sonnenthal *LBNL elsonnenthal@lbl.gov*	Flow and transport processes induced by manipulating in situ conditions. *e.g. Heat, mass and microbial transport, hydrothermal reactions, thermal stresses and permeability changes, multiphase, pressure solution, microbially mediated reactions, and related.*
Underground construction and mining	Charles Fairhurst *U. Minn fairh001@umn.edu*	Processes related to creating, designing, characterizing or monitoring and maintaining underground construction and mining activities. *e.g. Large cavities, tunnels, wellbores, rupture, uncertainty, preconditioning, ventilation, corrosion, and related.*
CO2 Sequestration	Joe Wang *LBNL JSWang@lbl.gov*	Processes associated with designing and predicting the performance of long-term disposal or sequestration of wastes in rock. *e.g. CO_2 transport, multi-phase transport, reactions and mineralization, microbial induced precipitation and immobilization of metals, and related.*
Resource extraction	Jean-Claude Roegiers *U. Oklahoma jroegiers@ou.edu*	Processes related to designing and improving the recovery and management of valuable earth resources; petroleum, gas, geothermal energy, ore minerals, water, biofuels, etc. *e.g. Fracturing, drilling, secondary and tertiary recovery, well completion, formation characterization, microbially enhanced recovery, and related.*
Subsurface Imaging and sensing	Steve Glaser *UC Berkeley glaser@ce.berkeley.edu*	Techniques for improving the spatial and temporal resolution of important subsurface properties or states. *e.g. Seismic, electrical, radar tomography, and emerging geophysical techniques; raman, UV fluorescent and emerging sensors, mobile laboratories, or related techniques.*
Ultra-deep drilling and exploration	Tom Kieft New Mexico Tech *tkieft@nmt.edu*	Biological and geological processes occurring at depths from 2.5 to 5 km. *Microbial population, fluid composition, flow rates, fluid age, stress state, permeability and related.*

Self-Initiated Working Groups

PODS	Derric Iles, University of South Dakota *diles@usd.edu*	Geologic processes through Earth history. *e.g. Petrogenesis, Ore Deposits, Structure, Sedimentation, tectonics and deformation, crustal fluids,…*
Geoneutrino Radiometric Analysis Group for Geosciences	P. Ila, MIT *pila@MIT.EDU*	