

“Observatory” Group

- focus on observation of processes, in particular conditions that affect geomicrobiology (flow, energy/temperature, fluid chemistry, etc.) e.g. a geomicrobiological observatory

“Laboratory” Group

- focus on evaluating/testing of characterization or understanding of our a priori assessment of properties and processes, using active experiments/“perturbation”

Tasks for Each Group:

- I. Identify TOP 3 science/engineering questions or hypotheses
- II. For each, describe the general approach to be used for these hypotheses or questions
- III. For each, describe conceptually the experimental design for the general approach*
- IV. Describe the “infrastructure”** for each of these

*Recognizing that more than one appropriate experiment may be possible, please try to be as brief as possible.

Paraphased below are SOME IDEAS for possible major experiments/focus topics, from last night's discussion:

Paul Young: "In situ imaging and testing/evaluation of known characterizations " (e.g., the theme of the "Laboratory" group

Larry Costin: "In situ mechanics of scaling"

Eric Sonnethal: "Comprehensive heater experiment"

Francois Heuze: "Comprehensive in situ fracture/fracture network characterization"

Tommy Phelps: " biogeochemical energy flux characterization"

Tom Kieft: "geomicrobiological observatory – focus on evolutionary controls, geogas hypothesis, processes at geological interfaces (lithologic or otherwise), etc.

Derek Elsworth: "In situ imaging for reactive flow, pore/matrix changes, and concomitant deformation/change"

Lee Petersen: "state-of-the-art technologies of underground construction"

***Other ideas were discussed – these are just a sampling!