Group Discussion

Research Topics & Priorities

UREP Research Interests

1. Understanding pore-scale phenomena
2. Construction/reconstruction of phenomenological description of flow and transport mechanisms
3. Development of new numerical simulators
4. Data analysis and interpretation tools and procedures

UREP Research Interests

1. Understanding pore-scale phenomena
   - Pore scale models
   - Diffusion, filtration, osmosis
   - Lattice-Boltzman simulation
   - Brownian motion
   - Capillary effects
   - Effect of pore geometry
   - Surface forces

UREP Research Interests

2. Construction/reconstruction of phenomenological description of flow and transport mechanisms
    - Governing transport mechanisms
    - Scale and averaging properties
    - Constitutive relations and quantification
    - Fluid and formation characterization
    - Fit-for-purpose models for real systems

UREP Research Interests

3. Development of new numerical simulators
    - Bottom-up development of new simulators based on new understanding
    - Phase behavior based on thermodynamics in confinement
    - Non-equilibrium thermodynamics
    - Diffusion and filtration
    - Black-oil and compositional formulations

UREP Research Interests

4. Data analysis and interpretation tools and procedures
    - Pressure and rate transient analysis
    - Drainage area and interference
    - Production decline characteristics
    - Performance predictions
    - Completion optimization based on reservoir performance
    - Ultimate recovery

UREP Research Program

Based on the discussions of the kick-off meeting, we will create research proposals including deliverables, timetables, and budgets

We will prioritize the proposals based on importance, sequence of ideas, interest, and budget considerations

We will send the list of proposals to the potential sponsors

We will initiate the projects based on the input of the sponsors and the availability of funds