

Porous Media Consortium Comments on the Given Presentations

Robert Li's presentation:

Q*: Design of a pilot? Pore size aspect ratio may be very different in the reservoir than the experiments shown here. Tracer experiments in heterogeneous media might be helpful.

A**: We can only try conceptual models. It would be useful if consortium attendees give a presentation on how to establish a pilot.

Q: Other than simulations, how can we scale up from a core to the next level while considering the fracture-matrix interaction?

C***: It requires knowledge of geology of the formation. We do not know much about the fracture geology. Three parameters are critical to characterize fractures: fracture density, fracture permeability, and fracture half-length. Identification of fracture environment and upfront analysis of the reservoir is essential.

Q: How to describe fracture-rock interaction?

A: Change of pore-size in the same layered system as well as varying the thickness of the layers. Take a core sample and fracture it hydraulically to create an artificially fractured network. Use micromodels to design more complex geometries and then scale it up.

Maura's presentation:

C: Using a seawater / formation brine blend (if you can use it) to achieve optimal salinity is a good idea especially in offshore.

Sumedh presentation:

Q: What temperature increase we would expect as a result of CO₂ release to the atmosphere?

C: We should come up with a better way to sequester CO₂ because of the economics of the process. Change of solvent could be one way to go.

* Q: Question ** A: Answer *** C: Comment

Comment by Scott Wellington

George:

You organized and managed a great JIP meeting yesterday. I especially wish to congratulate you on the quality of the research work and presentations by the students. Your strict adherence to scientific principles, clear thinking, focus on the key problems and well organized slides came through loud and clear as the students made their presentations.

I was a bit disappointed by the responses (or really the lack of responses) from the JIP members when you asked for comments concerning future research directions and suggestions. Toward this subject, I suggest that it might be helpful to make an addition to the introduction slide of each talk. The slide addition would include a clear goal statement, i.e. the hypothesis that is being tested or the question(s) that is (are) being addressed, etc. The next slide (or on the same slide as the goal statement) there should be a short description of the method being used to address finding an answer to the question, i.e. simulation, a new and rapid dynamic phase behavior technique, core or sand pack flow experiments, etc.

The goal statement on the first slide sets up the conclusion slide to allow the presenter to explain what progress was made toward answering the goal or goals. It also opens up the opportunity on the conclusion slide to ask explicitly for comments and suggestions on improving the approach. Then based on current conclusions and understanding to ask again for explicit input on defining additional questions to address going forward.

In summary, the proposed approach is my attempt to get more input from the JIP members. The strategy for the presentations is to clearly state the goal, outline the approach to addressing the goal, show the results and interpretation of the results and then use the conclusions slides to try and get the JIP members to engage more actively. I realize this is never easy and no approach including my suggestions provides the perfect answer. Getting more engagement from the JIP members is from my view is an important goal, i.e. I am implicitly assuming JIP member engagement is desired and important to keep and gain ongoing support.

Regards,

Scott Wellington