Center for Fundamentals of Subsurface Flow

SECOND CFSF WORKSHOP ON POROUS MEDIA FLOWS

PRELIMINARY PROGRAM

Tuesday, September 27

12:00 – 12:15 pm	**Working Lunch** **Session on Experimental Science**
12:15 – 12:30 pm	**Opening remarks**, Diana Hulme, Deputy Director, Research, School of Energy Resources
12:30 – 1:05 pm	**Hysteresis in multiphase flow properties of scCO2/brine systems** PI: Mohammad Piri; Speaker: Morteza Akbarabadi
1:05 – 1:40 pm	**Fundamental investigation of wettability in supercritical-CO_2/brine/rock systems at reservoir conditions: impact of co-contaminants** PI: Lamia Goual; Speaker: Soheil Saraji
	Session on Modeling and Simulation
1:40 – 2:15 pm	**Dynamic parallel pore-level modeling** PI: Mohammad Piri; Speaker: Arash Aghaei
2:15 – 2:50 pm	**Permeability hysteresis effects in geologic CO2 sequestration** PI: Frederico Furtado; Speaker: Frederico Furtado
2:50 – 3:20 pm	**Coffee Break**
3:20 – 4:10 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr., Purdue University
4:10 – 4:30 pm	**Coffee Break**
4:30 – 5:20 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr.

Wednesday, September 28

12:00 – 12:30 pm	**Working Lunch** **Session on Modeling and Simulation**
12:30 – 1:05 pm	**Coupled analysis of stress change around wellbore** PI: Guan Qin; Speaker: Shunde Yin
1:05 – 1:40 pm	**Data-driven numerical modeling and simulation on the development of unconventional reservoirs** PI: Guan Qin; Speaker: Guan Qin

1:40 – 2:15 pm	**High Performance, Dynamic Data-Driven Methods for Subsurface Flow Problems** PI: Craig Douglas; Speaker: Craig Douglas
2:15 – 2:50 pm	**Rapid quantification of uncertainty in permeability and porosity of subsurfaces for enabling predictive simulation** PI: Victor Ginting; Speaker: Arunasalam Rahunanthan
2:50 – 3:20 pm	**Coffee Break**
3:20 – 4:10 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr., Purdue University
4:10 – 4:30 pm	**Coffee Break**
4:30 – 5:20 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr.
5:30 – 6:30 pm	**Cocktail Reception**
6:30 – 8:00 pm	**Dinner**

Thursday, September 29

12:00 – 12:30pm	**Working Lunch** **Session on Modeling and Simulation**
12:30 – 1:00 pm	**CO2 Modeling in a Deep Saline Aquifer: A Predictive Uncertainty Analysis Using Design of Experiment** PI: Ye Zhang; Speaker: Ye Zhang
1:00 – 1:30 pm	**A study of conceptual model uncertainty in large-scale CO2 storage simulation** PI: Ye Zhang; Speaker: Shuiquan Li
1:30 – 2:00 pm	**Optimal Complexity in Reservoir Modeling of an Aeolian Sandstone for Carbon Sequestration Simulation** PI: Ye Zhang; Speaker: Shuiquan Li
2:00 – 2:30 pm	**A new multiscale mixed method for porous media flows** PI: Felipe Pereira; Speaker: Joyce Rigelo
2:30 – 3:00 pm	**A two-phase, three-component model for CO2 injection in brine aquifers** PI: Felipe Pereira; Speaker: Marcos Mendes
3:00 – 3:20 pm	**Coffee Break**
3:20 – 4:10 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr., Purdue University
4:10 – 4:30 pm	**Coffee Break**
4:30 – 5:20 pm	**Short Course on Homogenization Theory** Speaker: Jim Douglas, Jr.
5:20 – 5:30 pm	**Concluding remarks**