Colliver, Terri L.

From: King, Donna W.
Sent: Tuesday, September 02, 2014 9:09 AM
To: CHEM ENG GRAD PROGRAMS
Subject: CBME seminar Thur., Sept. 4, 2 p.m., SEC M-204

CHEMICAL, BIOLOGICAL & MATERIALS ENGINEERING

100 E. Boyd, Sarkeys Energy Center, T-301
405-325-5811
The University of Oklahoma
Norman, Oklahoma

2014 – 2015 Seminar Series

==========

DR. LISA BISWAL

ASSOCIATE PROFESSOR
SOFT MATTER ENGINEERING LABORATORY
CHEMICAL AND BIOMOLECULAR ENGINEERING
RICE UNIVERSITY
HOUSTON, TEXAS

Will present a seminar on

"USING MICROFLUIDIC SYSTEMS FOR THE VISUALIZING AND MANIPULATION OF MULTIPHASE FLUIDS FOR OIL RECOVERY PROCESSES"

The use of foam in enhanced oil recovery (EOR) applications is being considered for gas mobility control to ensure pore-trapped oil can be effectively displaced. In fractured reservoirs, gas tends to channel only through the highly permeability regions, bypassing the less permeable porous matrix, where most of the residual oil remains. Because of the unique transport problems presented by the large permeability contrast between fractures and adjacent porous media, we aim to understand the mechanism by which foam transitions from the fracture to the matrix and how initially trapped oil can be displaced and ultimately recovered. My lab has generated micromodels, which are combined with high-speed imaging to visualize foam transport in models with permeability contrasts, fractures, and multiple phases. The wettability of these surfaces can be altered to mimic the heterogeneous wettability found in reservoir systems. We have shown how foam quality can be modulated by adjusting the ratio of gas flow ratio to aqueous flow rate in a flow focusing system and this foam quality influences sweep efficiency in heterogeneous porous media systems. I will discuss how this understanding has allowed us to design better foam EOR processes.

THURSDAY, SEPTEMBER 4, 2014
COOKIES AND COFFEE -- 1:45 P.M.
SEMINAR -- 2:00 P.M.
SARKEYS ENERGY CENTER, ROOM M-204

THIS IS A REQUIRED SEMINAR FOR CHE 5971

Accommodations on the basis of disability are available by contacting the office before the event.