Pr. Eirik G. Flekkøy,
Complex, Physics Department, University of Oslo

Seismic stimulation of enhanced oil recovery: a pore scale study.

As much as 70 % of the worlds known
oil is stuck in reservoirs, and various techniques
to reduce this fraction have been employed.
One of these is seismic stimulation, that is,
seismic waves that alter the fluid displacement structures
in the reservoir. We study these structures and
their evolution on the pore scale and the scale
above that. Our approach relies on a combination
of experiments, network simulations, lattice Boltzmann simulations,
and theory. The questions that we addresss is how
the fluid structures depend on the seismic wave
amplitude, frequency and direction, as well as on the
compressibility of the fluid.