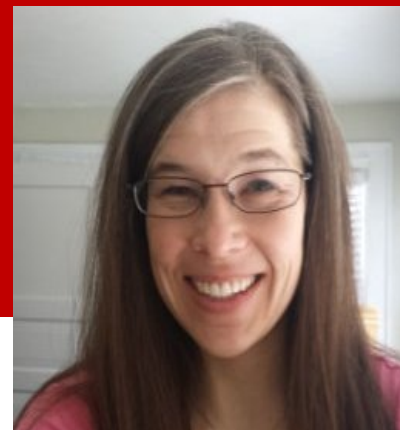


“Utilization of Block Copolymer Technology in the Oil and Gas Industry”

171 Durham, October 29th, 2015 at 11:00 a.m.



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Staff Scientist
Kraton Polymers

The drilling and completing of a well is a critical step in the process of oil and gas exploration and production. Material science and engineering work together as a borehole is drilled through extreme environments that challenge the upper limits of these material's properties. Throughout drilling procedures, drilling fluids play a critical role in helping to stabilize the borehole, cool and lubricate the drill bit, and carry the cuttings back to the surface. These fluids are weighted to a specific density in order to match the downhole formation pressure and properly stabilize the borehole as it is being drilled; an imbalance of pressure could lead to a blowout event. In order to meet these varied performance requirements, these drilling fluids must have a very specific rheological profile: they must suspend the solid weighting agent and drill cuttings under low to no shear conditions, but then have little resistance to flow under higher shear conditions in order to maximize the rate of penetration of the drill bit. In addition, any chemical additive used to impart such non-Newtonian behavior to the fluid must be stable to high temperatures, pressures, and chemical contaminants that may be encountered in a downhole environment. This talk will focus on the use of styrenic block copolymers as rheology modifiers in drilling and completion fluids, highlighting how the formation of micelles in solution gives structured fluids that lead to formulation options not accessible with non-polymeric additives.

**Refreshments
will be provided
in 2061 Sweeney
Hall at 10:30 a.m.**

*If you plan to attend,
email a question to
bellinda@iastate.edu
and the speaker will
answer your question!*

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