

Title: Complexities of Proppant Transport in Horizontal Wellbores and Hydraulic Fractures

Abstract: While proppant transport has been a topic of study in petroleum engineering for decades, the complexities of such in the presence of low viscosity fluids and in horizontal wellbores have garnered significant attention in the past several years. How proppant particles move, and more importantly, how they settle in fractures can have substantial impacts on the resulting fracture conductivity and well productivity. Additionally, how the particles behave in a horizontal wellbore, prior to exiting perforation clusters, can also impact ultimate productivity and the success of multi-stage fracturing treatments. This presentation will provide a look at the results of several experimental studies of proppant transport both in complex fracture systems and horizontal wellbores. The impacts of parameters such as rough-walled systems, fluid viscosity, proppant densities, perforation orientations and other factors on proppant transport will be discussed. As a summary, how these behaviors should be considered in productivity during reservoir analyses will be discussed.

Bio: Dr. Jennifer L. Miskimins is a Professor and the Department Head of the Petroleum Engineering Department at the Colorado School of Mines, where she holds the F.H. Mick Merelli/Coterra Energy Distinguished Department Head Chair. Dr. Miskimins holds a BS from the Montana College of Mineral Science and Technology, and MS and PhD degrees from the Colorado School of Mines, all in petroleum engineering. She has 35 years of experience in the petroleum industry, both in industry and academia. Dr. Miskimins specializes in well completions, stimulation, hydraulic fracturing, and associated production issues. She is highly active in SPE and has served as an SPE Distinguished Lecturer twice, was the Completions Technical Director on the SPE Board of Directors from 2015-2018, and is the incoming SPE International President for 2026.