# POLYMER FLOODING

**Polymer Flooding Course Description**

This course provides a comprehensive introduction to polymer flooding. The distinction between polymer flooding and gel treatments is described. The basic composition and properties of polymers are presented, and the available polymers are compared. The range of applicability of polymer flooding is covered, including recent advances that allow the process to recover oils as viscous as 10000 cp. How much polymer should be injected in a given application is examined. Important polymer properties are discussed in detail, including rheology in porous media, injectivity, retention/propagation, mechanical/shear degradation, chemical/oxidative degradation, and other stability issues. Whether, when, and why polymer flooding can reduce capillary trapped residual oil is examined. Polymer flooding is compared with in-depth gelation, colloidal dispersion gels, foams, and other approaches for improving sweep efficiency. Results from field applications and important surface issues associated with polymer flooding are presented.

**Randy Seright bio**

Randy Seright headed the Reservoir Sweep Improvement group at the Petroleum Recovery Research Center of New Mexico Tech. His research focuses on developing methods to prevent fluid channeling through reservoirs and to reduce excess water and gas production during oil recovery, especially using polymers and gels. He has extensive interests and experience in improving sweep efficiency during water flooding and chemical flooding. He holds a B.S. degree in Chemical Engineering from Montana State University (Bozeman) and a Ph.D. degree in Chemical Engineering from the University of Wisconsin (Madison). He worked for Exxon Production Research Company for eight years before joining the PRRC. He is a life member of the Society of Petroleum Engineers. He has provided short courses on Polymer Flooding and Water Shutoff in 19 countries. He received the SPE/DOE IOR Pioneer award in 2008 for his work on using polymer and gels to improve oil recovery.