Wettability and Low-Salinity Water Flooding

This school covers the basics of wettability and low-salinity water flooding. The physics/chemistry of low-salinity water injection is discussed from pore-level mechanisms to field-scale application, with an emphasis on surface chemistry, relative-permeability measurements, practical reservoir-engineering design tools, and fitting simulation parameters to laboratory and field data. The concept of wettability and the effect of salinity on the nature of rock-fluid interactions, and relevance of these complex phenomena to field-scale performance are also presented.

Instructors

- Prof. Pavel Bedrikovetsky (Delft University of Technology)
- Dr. Patrick Brady (Sandia National Laboratories)
- Prof. George Hirasaki (Rice University)
- Prof. William Rossen (Delft University of Technology)

Topics Covered

- Thermodynamics of wettability
- Oil-recovery mechanisms of low-salinity water flooding
- SCAL measurements and interpretation for low-salinity water flooding
- Mineral/Oil surface chemistry
- Well Injectivity during (low-salinity) water injection
- Fractional-flow analysis and analytical models of low-salinity water flooding

Registration fee

- $2500 attendees from industry
- $1000 academic staff and Post doc researchers
- $600 PhD students and Post doc researchers

We can admit limited number of participants. People who register earlier will have priority. Registration deadline is 15 April 2017.

For more information, visit www.delftsummerschool.citg.tudelft.nl

Instructors:

Patrick V. Brady is a Senior Scientist at Sandia National Laboratories in Albuquerque, New Mexico, USA. He received his Bachelors and Ph.D. degrees in Geology from the University of California at Berkeley and Northwestern University, respectively, and did a Post-doc at ETH-Zurich, Dübendorf, Switzerland. He has authored or co-authored several dozen peer-reviewed journal articles, books and book chapters, as well as 16 patents, in the fields of EOR, mineral surface chemistry, and geochemistry. His present focus is mineral/oil surface chemistry controls over wettability alteration and enhanced oil recovery. He joined Sandia in 1993 and is also adjunct Instructor of Civil and Environmental Engineering at New Mexico Institute of Mining and Technology, Socorro, New Mexico (since 1998).

Shehadeh Masalmeh is currently working as an EOR and SCAL Expert with ADNOC. He received his B.S. degree in Petroleum Engineering from California State University Long Beach, his M.S. degree in Petroleum Engineering from Rice University and his PhD from Delft University of Technology. He has more than 10 years of industrial experience in Russia, Europe, Brazil and Australia. He served as Session Chairman, short course instructor and Program Committee member at numerous SPE Conferences. Pavel is 2008-2009 and 2016-2017 SPE Distinguished Lecturer.

William R. Rossen is Professor in Reservoir Engineering in the Department of Geoscience and Engineering, Delft University of Technology. He has more than 90 journal publications and has delivered invited lectures and taught courses worldwide. Prof. Rossen's current research concerns use of foams for diverting fluid flow in porous media, modeling complex transport processes in networks, and understanding flow in naturally fractured geological formations. Prof. Rossen was named Best Instructor at Delft University of Technology in 2011. In 2012 he was named an IOR Pioneer at the SPE/DOE Symposium on Improved Oil Recovery, Tulsa, OK, USA. He is a Distinguished Member of SPE.

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Registration

For registration please send an email to delftsummerschool-citg@tudelft.nl