



Anthony Kavscek

Keleen and Carlton Beal Professor of Petroleum Engineering and Senior Fellow at the Precourt Institute for Energy
Energy Resources Engineering

Bio

ACADEMIC APPOINTMENTS

- Professor, Energy Resources Engineering
- Senior Fellow, Precourt Institute for Energy
- Affiliate, Precourt Institute for Energy

ADMINISTRATIVE APPOINTMENTS

- Chair, Energy Resources Engineering, (2012-2018)
- Professor of Energy Resources Engineering, Stanford University, (2010- present)
- Associate Professor of Energy Resources Engineering, Stanford University, (2006-2010)
- Associate Professor of Petroleum Engineering, Stanford University, (2003-2006)
- Assistant Professor of Petroleum Engineering, Stanford University, (1996-2003)

HONORS AND AWARDS

- Outstanding Technical Editor, SPE Editorial Review Committee, Society of Petroleum Engineers (2019, 2015-2017, 2004, 2002, 2001)
- Distinguished Member, Society of Petroleum Engineers (2015)
- Lester C Uren Award for Distinguished Achievement, Society of Petroleum Engineers (2015)
- Distinguished Lecturer. Carbon Sequestration, Global Climate and Energy Project, Stanford University (2008)
- Outstanding Review Chair, SPE Editorial Review Committee, Stanford University (2007)
- SPE Distinguished Achievement Award for Petroleum Engineering Faculty, Stanford University (2006)
- SPE Western North America Region Technical Achievement Award, Society of Petroleum Engineers (2005)
- Senior Scientist Fellowship, Summer, ENSAM - University of Bordeaux, France (2000)
- School of Earth Sciences Award for Excellence in Teaching, Stanford University (1997-1998)
- Tau Beta Pi, Univ. of Washington (1988)
- Jenkins Shackelford Scholar, Western Washington University (1984-1988)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair of Energy Resources Engineering, Stanford University (2012 - 2018)
- Breadth Governance Board, Ways of Thinking and Doing, Stanford University (2012 - 2014)
- Codirector of SCCS, Stanford Center for Carbon Storage Affiliates, Stanford University (2011 - present)
- Chair, Faculty Search Committee Energy Resources Engineering, Stanford University (2011 - 2011)

- Invited Speaker, China University of Petroleum, Beijing China (2011 - 2011)
- Technical Program Committee, SPE Western Regional Meeting, Society of Petroleum Engineers (2011 - 2011)
- Cochair of Steering Committee, SPE Forum, Digital Rocks: Realizing Step Change in the Value of Laboratory Data (2010 - 2011)
- Invited Speaker: Department of Chemical Engineering, University of California at Santa Barbara, et al. (2010 - 2010)
- Technical Program Committee, SPE Western Regional Meeting, Society of Petroleum Engineers (2010 - 2010)
- Invited Speaker, Department of Petroleum and Geosystems Engineering, University of Texas and Chemical Engineering and Materials Science, University of Southern California (2009 - 2009)
- Executive Editor, SPE Journal, Society of Petroleum Engineers (2009 - 2012)
- Associate Chairman, Energy Resources Engineering, Stanford University (2008 - 2011)
- Chair, Faculty Search Committee, Energy Resources Engineering, Stanford University (2008 - 2008)
- Marshall, 117th Commencement June 15, Stanford University (2008 - 2008)
- Technical Program Committee, SPE Western Regional Meeting, Society of Petroleum Engineers (2008 - 2009)
- Organizing Committee, SPE Forum, Maximizing Oil Recovery in the 21st Century, Colorado Springs, CO., Society of Petroleum Engineers (2008 - 2009)
- Society of Petroleum Engineers, Books Development Committee, Society of Petroleum Engineers (2008 - 2009)
- Technical Program Committee, SPE Western Regional Meeting, Society of Petroleum Engineers (2007 - 2008)
- Member, Faculty Search Committee, Energy Resources Engineering, Stanford University (2007 - 2007)
- SPE Publications Coordinating Committee, Society of Petroleum Engineers (2007 - 2008)
- Steering Committee, 6th Annual Conference on Carbon Capture and Sequestration, Pittsburg, PA, Conference on Carbon Capture and Sequestration (2007 - 2007)
- Editorial Board, SPE Reservoir Evaluation & Engineering, Society of Petroleum Engineers (2006 - 2009)
- Member, American Geophysical Union (AGU), American Geophysical Union (2006 - present)
- Member, Energy Committee, Woods Institute for the Environment at Stanford University (2005 - present)
- Chair, Energy Resources Engineering Admissions Committee, Stanford University (2005 - present)
- Chair of Steering Committee, SPE Forum, Enhanced Oil Recovery: What's Next?, Society of Petroleum Engineers (2005 - 2006)
- Invited Speaker, BP Anchorage, AK, and ExxonMobil Research and Engineering Co. Clinton, NJ (2005 - 2005)
- Steering Committee Member, 4th Annual Conference on Carbon Capture and Sequestration, Alexandria, VA, Conference on Carbon Capture and Sequestration (2005 - 2005)
- SPE Western Regional Meeting Program Committee and Session Chair, Society of Petroleum Engineers (2005 - 2005)
- Freshman Advisor, Stanford University (2004 - 2008)
- Marshall, 113th Commencement, June 13, Stanford University (2004 - 2004)
- Invited Speaker: Petroleum Technology Transfer Council, SPE Advanced Technology Workshop on Reservoir Physics, Gordon Research Conference--Flow and Transport in Permeable Media, Society of Petroleum Engineers (2004 - 2004)
- Journal of Petroleum Technology, Editorial Committee, Journal of Petroleum Technology (2004 - present)
- Chair, SPE Continuing Education Committee, Society of Petroleum Engineers (2004 - 2005)
- Invited Speaker: Department of Chemical Engineering, University of California, Berkeley., University of California, Berkeley, PetroChina, Beijing China, Aera Energy LLC, Bakersfield, CA (2003 - 2003)
- Organizer, ACS Award in Colloid Chemistry Symposium Honoring Clayton J. Radke, American Chemical Society (2003 - 2003)
- Editor of a Special Issue of the Journal of Petroleum Science and Engineering honoring Professor W. E. Brigham, Journal of Petroleum Science and Engineering (2003 - 2003)
- Member, Faculty Search Committee, Petroleum Engineering, Stanford University (2002 - 2003)
- Invited Speaker: Department of Civil Engineering, University of California, Berkeley, Huainan Institute of Technology, Anhui China, University of California, Berkeley and Huainan Institute of Technology, Anhui China (2002 - 2002)
- Session Chairman: SPE/DOE Improved Oil Recovery Symposium, Society of Petroleum Engineers and Department of Energy (2002 - 2002)

- Invited Speaker, Petroleum Technology Transfer Council (2001 - 2001)
- Invited Panelist, DOE Multiscale Reservoir Investigation Symposium, Organizer SPE Western Region Student Paper Contest, Department of Energy and Society of Petroleum Engineers (2001 - 2001)
- Faculty Search Committee, Geological and Environmental Sciences, Stanford University (2000 - 2000)
- Member, Earth Systems Advisory Committee, Stanford University (2000 - present)
- Invited Speaker, Chevron Petroleum Technology Co. (2000 - 2000)
- Technical Editor, SPE Reservoir Engineering and Evaluation (2000 - 2006)
- Member, Continuing Education Committee, SPE, Society of Petroleum Engineers (2000 - present)
- Technical Program Committee/Session Chairman: SPE/DOE Improved Oil Recovery Symposium, SPE Western Regional Meeting, Society of Petroleum Engineers and Department of Energy (2000 - 2000)
- Instructor, Stanford Science and Engineering Academy (1999 - 1999)
- Speaker, The President's Fund Dinner, Stanford University (1999 - 1999)
- Faculty Advisor, SPE student chapter, Stanford University (1998 - present)
- Member, Petroleum Engineering Department Admissions Committee, Stanford University (1998 - 2002)
- Invited speaker, Mobil Technology Company, Imperial Oil Resources (1998 - 1998)
- Session Chairman: SPE/DOE 11th Symposium on Improved Oil Recovery, 7th UNITAR Conference on Heavy Crude Oil, Society of Petroleum Engineers and Department of Energy (1998 - 1998)
- Freshman and Sophomore advisor, Stanford University (1997 - 2003)
- Organizing Committee: Stanford and Heriot Watt University Forum on Reservoir Description and Modeling, Stanford University and Heriot Watt University (1997 - 1997)
- Member, American Chemical Society (1997 - present)
- Chairman, Petroleum Engineering Department Safety Committee, Stanford University (1996 - 2008)
- Member, School of Earth Sciences Faculty Library Committee, Stanford University (1996 - present)
- Member, Society of Petroleum Engineers (1994 - present)

PROFESSIONAL EDUCATION

- Ph.D., Univ. of California, Berkeley Chemical Engineering (1994)
- B.S., Univ. of Washington, Chemical Engineering (1989)

LINKS

- SUPRI-A: <http://pangea.stanford.edu/ERE/research/supria/index.php>
- GoogleScholar Profile: <https://scholar.google.com/citations?hl=en&user=CQ1koU8AAAAJ>
- Center for Mechanistic Control of Unconventional Formations (CMC-UF): <https://efrc-shale.stanford.edu>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

I am interested in the recovery of unconventional hydrocarbon resources and mitigating carbon emissions from fossil fuels via geological sequestration of greenhouse gases. My research group and I examine the physics of flow through porous media at length scales that vary from the pore to the laboratory to the reservoir.

The organizing themes are flow imaging to delineate the mechanisms of multiphase flow (oil, water, and gas) in porous media and the synthesis of models from experimental, theoretical, and field data. In all of our work, physical observations, obtained mainly from laboratory and field measurements, are interwoven with theory.

Teaching

My teaching interests center broadly around education of students to meet the energy challenges that we will face this century. I teach undergraduate courses that examine the interplay of energy use and environmental issues including renewable energy resources and sustainability. At the graduate level, I offer classes on enhanced oil recovery and the thermodynamics of hydrocarbon mixtures.

Professional Activities

Member, American Geophysical Union (2006); Editorial Board, SPE Reservoir Evaluation and Engineering (2006-present); Society of Petroleum Engineers (SPE) Distinguished Achievement Award for Petroleum Engineering Faculty (2006); School of Earth Sciences Award for Excellence in Teaching (1998); Earth Systems Program Executive Committee (2002-present); Woods Institute for Environment Energy Committee (2005-present); SPE Continuing Education Committee (2000-present, chair 2004-05); steering committee chair, SPE Forum, Enhanced Oil Recovery: What's Next? (2005-06); Editorial Board of the Journal of Petroleum Technology (2004-present) and SPE Reservoir Engineering and Evaluation (2006-present); member, Society of Petroleum Engineers, American Geophysical Union, and the American Chemical Society.

Teaching

COURSES

2019-20

- Energy and the Environment: EARTHSYS 101, ENERGY 101 (Win)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)
- Fundamentals of Renewable Power: EARTHSYS 102, ENERGY 102 (Spr)
- Senior Project and Seminar in Energy Resources: ENERGY 199 (Spr)
- Thermodynamics of Equilibria: ENERGY 251 (Aut)

2018-19

- ERE Master's Graduate Seminar: ENERGY 351 (Spr)
- ERE PhD Graduate Seminar: ENERGY 352 (Spr)
- Energy and the Environment: EARTHSYS 101, ENERGY 101 (Win)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)
- Fundamentals of Renewable Power: EARTHSYS 102, ENERGY 102 (Spr)
- Senior Project and Seminar in Energy Resources: ENERGY 199 (Spr)
- Thermodynamics of Equilibria: ENERGY 251 (Aut)

2017-18

- Energy and the Environment: EARTHSYS 101, ENERGY 101 (Win)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Aut)
- Fundamentals of Renewable Power: EARTHSYS 102, ENERGY 102 (Spr)
- Senior Project and Seminar in Energy Resources: ENERGY 199 (Spr)
- Thermodynamics of Equilibria: ENERGY 251 (Aut)

2016-17

- Energy and the Environment: EARTHSYS 101, ENERGY 101 (Win)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)
- Fundamentals of Renewable Power: EARTHSYS 102, ENERGY 102 (Spr)
- Senior Project and Seminar in Energy Resources: ENERGY 199 (Spr)

- Thermodynamics of Equilibria: ENERGY 251 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Tim Anderson, Matthias Cremon, Hailun Ni, Yuran Zhang

Postdoctoral Faculty Sponsor

S. Asli Gundogar

Master's Program Advisor

Khaled Aounallah, Yunan Li, Alexander Ortega

Doctoral (Program)

TALAL AL SHAFLOOT, Laura Froute, Kelly Guan, Manju Murugesu, Yulman Perez Claro, Jie Yang, salem aldousary

Publications

PUBLICATIONS

- **Spontaneous fingering between miscible fluids** *COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS*
Song, W., Ramesh, N. N., Kavscek, A. R.
2020; 584
- **Nanoparticle delivery to porous media via emulsions and thermally induced phase inversion** *COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS*
Amanam, U. U., Zeng, H., Kavscek, A. R.
2019; 581
- **Modeling Steady-State Foam Flow: Hysteresis and Backward Front Movement** *ENERGY & FUELS*
Almajid, M. M., Nazari, N., Kavscek, A. R.
2019; 33 (11): 11353–63
- **Spontaneous clay Pickering emulsification** *COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS*
Song, W., Kavscek, A. R.
2019; 577: 158–66
- **The diffusion of water through oil contributes to spontaneous emulsification during low salinity waterflooding** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Aldousary, S., Kavscek, A. R.
2019; 179: 606–14
- **Doctrines and realities in viscous and heavy-oil reservoir engineering** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Vittoratos, E., Kavscek, A. R.
2019; 178: 1164–77
- **Investigation of the effects of ions on short-range non-DLVO forces at the calcite/brine interface and implications for low salinity oil-recovery processes.** *Journal of colloid and interface science*
Guo, H., Kavscek, A. R.
2019; 552: 295–311
- **Recovery efficiency of a 28 degrees API crude-oil system as a function of voidage replacement ratio** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Kim, T., Vittoratos, E., Kavscek, A. R.
2019; 175: 1063–87
- **Influence of Microcracks on Flow and Storage Capacities of Gas Shales at Core Scale** *TRANSPORT IN POROUS MEDIA*
Alnoaimi, K. R., Kavscek, A. R.

2019; 127 (1): 53–84

- **The Effect of Voidage-Displacement Ratio on Critical Gas Saturation** *SPE JOURNAL*
Kim, T., Kavscek, A. R.
2019; 24 (1): 178–99
- **A systematic study of internal gas generation in shale source rocks using analog experiments** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Vega, B., Kavscek, A. R.
2019; 173: 209–21
- **Pore-scale visualization and characterization of viscous dissipation in porous media.** *Journal of colloid and interface science*
Roman, S., Soulaine, C., Kavscek, A. R.
2019; 558: 269–79
- **Mechanisms of multiphase reactive flow using biogenically calcite-functionalized micromodels** *LAB ON A CHIP*
Song, W., Ogunbanwo, F., Steinsbo, M., Ferno, M. A., Kavscek, A. R.
2018; 18 (24): 3881–91
- **Mechanisms of multiphase reactive flow using biogenically calcite-functionalized micromodels.** *Lab on a chip*
Song, W., Ogunbanwo, F., Steinsbo, M., Ferno, M. A., Kavscek, A. R.
2018
- **Pore-scale modelling of multiphase reactive flow: application to mineral dissolution with production of CO₂** *JOURNAL OF FLUID MECHANICS*
Soulaine, C., Roman, S., Kavscek, A., Tchelepi, H. A.
2018; 855: 616–45
- **Pulsating linear in situ combustion: why do we often observe oscillatory behavior?** *COMPUTATIONAL GEOSCIENCES*
Bazargan, M., Kavscek, A. R.
2018; 22 (4): 1115–34
- **An experimental platform for triaxial high-pressure/high-temperature testing of rocks using computed tomography** *REVIEW OF SCIENTIFIC INSTRUMENTS*
Glatz, G., Lapene, A., Castanier, L. M., Kavscek, A. R.
2018; 89 (4): 045101
- **An optimization algorithm for evaluation of kinetic parameters for crude oil combustion** *Journal of Petroleum Science and Engineering*
Koh Yoo, K. H., Sampaio, L., Gerritsen, M., Kavscek, A.
2018; 169: 241-257
- **Effects of Image Resolution on Sandstone Porosity and Permeability as Obtained from X-Ray Microscopy** *Transport in Porous Media*
Guan, K. M., et al
2018
- **Determination of pore-scale hydrate phase equilibria in sediments using lab-on-a-chip technology** *LAB ON A CHIP*
Almenningen, S., Flatlandsmo, J., Kavscek, A. R., Ersland, G., Ferno, M. A.
2017; 17 (23): 4070–76
- **Measurements and simulation of liquid films during drainage displacements and snap-off in constricted capillary tubes** *JOURNAL OF COLLOID AND INTERFACE SCIENCE*
Roman, S., Abu-Al-Saud, M. O., Tokunaga, T., Wan, J., Kavscek, A. R., Tchelepi, H. A.
2017; 507: 279–89
- **Experimental investigation and Grand Canonical Monte Carlo simulation of gas shale adsorption from the macro to the nano scale** *JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING*
Aljamaan, H., Al Ismail, M., Kavscek, A. R.
2017; 48: 119–37
- **Multiscale Imaging of Gas Storage in Shales** *SPE JOURNAL*
Aljamaan, H., Ross, C. M., Kavscek, A. R.
2017; 22 (6): 1760–77

- **NonArrhenius kinetics for reactive transport simulations of in situ combustion** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Bazargan, M., Kavscek, A. R.
2017; 157: 570-80
- **Creation of a dual-porosity and dual-depth micromodel for the study of multiphase flow in complex porous media** *LAB ON A CHIP*
Yun, W., Ross, C. M., Roman, S., Kavscek, A. R.
2017; 17 (8): 1462-1474
- **Analysis of the effects of copper nanoparticles on in-situ combustion of extra heavy-crude oil** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Amanam, U. U., Kavscek, A. R.
2017; 152: 406-415
- **CO2 Storage and Flow Capacity Measurements on Idealized Shales from Dynamic Breakthrough Experiments** *ENERGY & FUELS*
Aljamaan, H., Holmes, R., Vishal, V., Haghpanah, R., Wilcox, J., Kavscek, A. R.
2017; 31 (2): 1193-1207
- **Multiscale pore structure characterization of middle east carbonates** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Gundogar, A. S., Ross, C. M., Akin, S., Kavscek, A. R.
2016; 146: 570-583
- **In-Situ Visualization of Multidimensional Imbibition in Dual-Porosity Carbonates** *SPE JOURNAL*
Alshehri, A. J., Kavscek, A. R.
2016; 21 (5): 1631-1642
- **Pore-level hydrate formation mechanisms using realistic rock structures in high-pressure silicon micromodels** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Hauge, L. P., Gauteplass, J., Hoyland, M. D., Ersland, G., Kavscek, A., Ferno, M. A.
2016; 53: 178-186
- **Visualization and Quantification of Thermally Induced Porosity Alteration of Immature Source Rock Using X-ray Computed Tomography** *ENERGY & FUELS*
Glatz, G., Castanier, L. M., Kavscek, A. R.
2016; 30 (10): 8141-8149
- **Particle velocimetry analysis of immiscible two-phase flow in micromodels** *ADVANCES IN WATER RESOURCES*
Roman, S., Soulaine, C., Abu AlSaud, M., Kavscek, A., Tchelepi, H.
2016; 95: 199-211
- **Direct visualization of pore-scale fines migration and formation damage during low-salinity waterflooding** *JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING*
Song, W., Kavscek, A. R.
2016; 34: 1276-1283
- **An Experimental Investigation of Viscous-Oil Recovery Efficiency as a Function of Voidage-Replacement Ratio** *SPE JOURNAL*
Kim, T. W., VITTORATOS, E., Kavscek, A. R.
2016; 21 (4): 1236-1253
- **Experimental Study of Foam Generation, Sweep Efficiency, and Flow in a Fracture Network** *SPE JOURNAL*
Ferno, M. A., Gauteplass, J., Pancharoen, M., Haugen, A., Graue, A., Kavscek, A. R., Hirasaki, G.
2016; 21 (4): 1140-1150
- **Understanding the role of brine ionic composition on oil recovery by assessment of wettability from colloidal forces** *ADVANCES IN COLLOID AND INTERFACE SCIENCE*
Alshakhs, M. J., Kavscek, A. R.
2016; 233: 126-138
- **Pore-level mechanics of foam generation and coalescence in the presence of oil** *ADVANCES IN COLLOID AND INTERFACE SCIENCE*
Almajid, M. M., Kavscek, A. R.
2016; 233: 65-82

- **Characterization and Measurement of Multiscale Gas Transport in Shale-Core Samples** *SPE JOURNAL*
Alnoaimi, K. R., Duchateau, C., Kavscek, A. R.
2016; 21 (2): 573-588
- **Characterization of scalar mixing in dense gaseous jets using X-ray computed tomography** *EXPERIMENTS IN FLUIDS*
Dunmon, J., Sobhani, S., Kim, T. W., Kavscek, A., Ihme, M.
2015; 56 (10)
- **Functionalization of micromodels with kaolinite for investigation of low salinity oil-recovery processes.** *Lab on a chip*
Song, W., Kavscek, A. R.
2015; 15 (16): 3314-3325
- **Imaging-Based Characterization of Calcite-Filled Fractures and Porosity in Shales** *SPE JOURNAL*
Vega, B., Ross, C. M., Kavscek, A. R.
2015; 20 (4): 810-823
- **Microvisual investigation of polymer retention on the homogeneous pore network of a micromodel** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Yun, W., Kavscek, A. R.
2015; 128: 115-127
- **Pore-level foam generation and flow for mobility control in fractured systems** *COLLOIDS AND SURFACES A-PHYSICO-CHEMICAL AND ENGINEERING ASPECTS*
Gauteplass, J., Chaudhary, K., Kavscek, A. R., Ferno, M. A.
2015; 468: 184-192
- **A Reaction Model-Free Approach for In Situ Combustion Calculations: 1-Kinetics Prediction** *TRANSPORT IN POROUS MEDIA*
Bazargan, M., Kavscek, A. R.
2015; 107 (2): 507-525
- **An experimental investigation of the in-situ combustion behavior of Karamay crude oil** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Zhao, R., Chen, Y., Huan, R., Castanier, L. M., Kavscek, A. R.
2015; 127: 82-92
- **Kinetics Oxidation of Heavy Oil. 2. Application of Genetic Algorithm for Evaluation of Kinetic Parameters** *ENERGY & FUELS*
Lapene, A., Debenest, G., Quintard, M., Castanier, L. M., Gerritsen, M. G., Kavscek, A. R.
2015; 29 (2): 1119-1129
- **Functionalization of micromodels with kaolinite for investigation of low salinity oil-recovery processes** *LAB ON A CHIP*
Song, W., Kavscek, A. R.
2015; 15 (16): 3314-3325
- **Gas Sorption and the Consequent Volumetric and Permeability Change of Coal I: Experimental** *TRANSPORT IN POROUS MEDIA*
Lin, W., Kavscek, A. R.
2014; 105 (2): 371-389
- **Gas Sorption and the Consequent Volumetric and Permeability Change of Coal II: Numerical Modeling** *TRANSPORT IN POROUS MEDIA*
Lin, W., Kavscek, A. R.
2014; 105 (1): 23-42
- **Fines migration and compaction in diatomaceous rocks** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Lagasca, J. R., Kavscek, A. R.
2014; 122: 108-118
- **Klinkenberg effect on predicting and measuring helium permeability in gas shales** *INTERNATIONAL JOURNAL OF COAL GEOLOGY*
Firouzi, M., Alnoaimi, K., Kavscek, A., Wilcox, J.
2014; 123: 62-68
- **Consistency Measures for Isoconversional Interpretation of In-Situ Combustion Reaction Kinetics** *ENERGY & FUELS*
Chen, B., Castanier, L. M., Kavscek, A. R.

2014; 28 (2): 868-876

- **CT Imaging of Low-Permeability, Dual-Porosity Systems Using High X-ray Contrast Gas** *Transport in Porous Media*
Vega, B., Dutta, A., Kovscek, A. R.
2014; 101 (1): 81-97
- **Solar-generated steam for oil recovery: Reservoir simulation, economic analysis, and life cycle assessment** *ENERGY CONVERSION AND MANAGEMENT*
Sandler, J., Fowler, G., Cheng, K., Kovscek, A. R.
2014; 77: 721-732
- **CT Imaging of Low-Permeability, Dual-Porosity Systems Using High X-ray Contrast Gas** *TRANSPORT IN POROUS MEDIA*
Vega, B., Dutta, A., Kovscek, A. R.
2014; 101 (1): 81-97
- **(Submitted) Solar-Generated Steam for Oil Recovery: Reservoir Simulation, Economic Analysis, and Life Cycle Assessment** *Energy Conversion and Management*
Sandler, J., Fowler, G., Cheng, K., Kovscek, A. R.
2014
- **Fuel Formation and Conversion During In-Situ Combustion of Crude Oil** *SPE JOURNAL*
Hascakir, B., Ross, C. M., Castanier, L. M., Kovscek, A. R.
2013; 18 (6): 1217-1228
- **An induction reactor for studying crude-oil oxidation relevant to in situ combustion.** *Review of scientific instruments*
Bazargan, M., Lapene, A., Chen, B., Castanier, L. M., Kovscek, A. R.
2013; 84 (7): 075115-?
- **An induction reactor for studying crude-oil oxidation relevant to in situ combustion** *REVIEW OF SCIENTIFIC INSTRUMENTS*
Bazargan, M., Lapene, A., Chen, B., Castanier, L. M., Kovscek, A. R.
2013; 84 (7)
- **Wettability Alteration of a Heavy Oil/Brine/Carbonate System with Temperature** *ENERGY & FUELS*
Kim, T. W., Kovscek, A. R.
2013; 27 (6): 2984-2998
- **Pore-Scale Evaluation of Polymers Displacing Viscous Oil-Computational-Fluid-Dynamics Simulation of Micromodel Experiments** *SPE RESERVOIR EVALUATION & ENGINEERING*
Clemens, T., Tsikouris, K., Buchgraber, M., Castanier, L., Kovscek, A.
2013; 16 (2): 144-154
- **Improved Predictability of In-Situ-Combustion Enhanced Oil Recovery** *SPE RESERVOIR EVALUATION & ENGINEERING*
Kovscek, A. R., Castanier, L. M., Gerritsen, M. G.
2013; 16 (2): 172-182
- **Nonequilibrium Effects and Multiphase Flow in Porous Media** *TRANSPORT IN POROUS MEDIA*
Aryana, S. A., Kovscek, A. R.
2013; 97 (3): 373-394
- **Modification of heavy-oil rheology via alkaline solutions** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Zhao, R. B., Tang, G. Q., Kovscek, A. R.
2013; 103: 41-50
- **An Experimental Investigation of the In-Situ Combustion Behavior of Karamay Crude Oil** *SPE Western Regional Meeting*
Zhao, R., Castanier, L. M., Kovscek, A. R.
2013
- **Optimal Voidage Replacement Ratio for Viscous and Heavy Oil Reservoirs** *SPE Western Regional Meeting*
Delgado, D. E., Vittoratos, E. S., Kovscek, A. R.
2013
- **History and Application of Resistance Electrical Heaters in Downhole Oil Field Applications** *SPE Western Regional Meeting*

Sandberg, C., Hale, A., Kavscek, A. R.
2013

- **Solar-Generated Steam for Heavy-Oil Recovery: A Coupled Geomechanical and Reservoir Modeling Analysis** *SPE Western Regional Meeting*
Agarwal, A., Kavscek, A. R.
2013
- **Experiments and analysis of drainage displacement processes relevant to carbon dioxide injection** *PHYSICAL REVIEW E*
Aryana, S. A., Kavscek, A. R.
2012; 86 (6)
- **A Study of Microscale Gas Trapping Using Etched Silicon Micromodels** *TRANSPORT IN POROUS MEDIA*
Buchgraber, M., Kavscek, A. R., Castanier, L. M.
2012; 95 (3): 647-668
- **Modeling foam displacement in fractures** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Pancharoen, M., Ferno, M. A., Kavscek, A. R.
2012; 100: 50-58
- **Experiments and Analysis of Multiscale Viscous Fingering During Forced Imbibition** *SPE Annual Technical Conference and Exhibition*
Sharma, J., Inwood, S. B., Kavscek, A. R.
SOC PETROLEUM ENG.2012: 1142-59
- **Emerging challenges and potential futures for thermally enhanced oil recovery** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Kavscek, A. R.
2012; 98-99: 130-143
- **Creation of a dual-porosity micromodel for pore-level visualization of multiphase flow** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Buchgraber, M., Al-Dossary, M., Ross, C. M., Kavscek, A. R.
2012; 86-87: 27-38
- **Executive Summary** *SPE JOURNAL*
Kavscek, A. R.
2012; 17 (1): 7-7
- **Microvisual Investigation of Foam Flow in Ideal Fractures: Role of Fracture Aperture and Surface Roughness** *SPE Annual Technical Conference and Exhibition*
Buchgraber, M., Castanier, L. M., Kavscek, A. R.
2012
- **Pore-Scale Evaluation of Polymers Displacing Viscous Oil – Computational Fluid Dynamics Simulation of Micromodel Experiments, SPE 154169** *Proceedings of the Eighteenth SPE Improved Oil Recovery Symposium held in Tulsa, Oklahoma, USA, 14-18 April 2012*
Clemens, T., Tsikouris, K., Buchgraber, M., Castanier, L. M., Kavscek, A. R.
2012
- **Solar-Generated Steam for Oil Recovery: Reservoir Simulation, Economic Analysis, and Life Cycle Assessment**, *SPE Western Regional Meeting*
Sandler, J., Fowler, G., Cheng, K., Kavscek, A. R.
2012
- **Uncertainty Analysis on In-Situ Combustion Simulations Using Experimental Design** *SPE Western Regional Meeting*
Ogunbanwo, O., Gerritsen, M., Kavscek, A. R.
2012
- **An X-Ray CT Study of Multidimensional Imbibition in Dual Porosity Carbonates** *SPE Annual Technical Conference and Exhibition*
Alshehri, A. J., Kavscek, A. R.
2012
- **Emerging Challenges and Potential Futures for Thermally Enhanced Oil Recovery** *Journal of Petroleum Science & Engineering*
Kavscek, A. R.
2012: 98-99 130-143

- **Kinetics Oxidation of Heavy Oil. 1. Compositional and Full Equation of State Model** *ENERGY & FUELS*
Lapene, A., Debenest, G., Quintard, M., Castanier, L. M., Gerritsen, M. G., Kovscek, A. R.
2011; 25 (11): 4886-4895
- **Combustion Kinetics of Heavy Oils in Porous Media** *ENERGY & FUELS*
Cinar, M., Castanier, L. M., Kovscek, A. R.
2011; 25 (10): 4438-4451
- **Predictability of Crude Oil In-Situ Combustion by the Isoconversional Kinetic Approach** *SPE JOURNAL*
Cinar, M., Hascakir, B., Castanier, L. M., Kovscek, A. R.
2011; 16 (3): 537-547
- **In-Situ Combustion Dynamics Visualized With X-Ray Computed Tomography** *SPE JOURNAL*
Hascakir, B., Glatz, G., Castanier, L. M., Kovscek, A. R.
2011; 16 (3): 524-536
- **A Microvisual Study of the Displacement of Viscous Oil by Polymer Solutions** *SPE RESERVOIR EVALUATION & ENGINEERING*
Buchgraber, M., Clemens, T., Castanier, L. M., Kovscek, A. R.
2011; 14 (3): 269-280
- **Temperature-Induced Fracture Reconsolidation of Diatomaceous Rock During Forced Water Imbibition** *SPE RESERVOIR EVALUATION & ENGINEERING*
Peng, J., Kovscek, A. R.
2011; 14 (1): 45-59
- **High Resolution Imaging of Unstable, Forced Imbibition in Berea Sandstone** *TRANSPORT IN POROUS MEDIA*
Tang, G., Kovscek, A. R.
2011; 86 (2): 647-664
- **Experiments and Analysis of Multiscale Viscous Fingering during Forced Imbibition, SPE-143946** *Proceedings of the 2011 SPE Annual Technical Conference and Exhibition, Denver, CO 30 Oct - 2 Nov*
Sharma, J., Inwood, S. B., Kovscek, A. R.
2011
- **A Microvisual Study of the Displacement of Viscous Oil by Polymer Solutions** *SPE Reservoir Evaluation & Engineering*
Buchgraber, M., Clemens, T., Castanier, L., Kovscek, A.
2011; 14 (3)
- **Kinetic Cell and Combustion Tube Results for a Central European Crude Oil** *SPE Annual Technical Conference and Exhibition*
Glatz, G., Hascakir, B., Castanier, L. M., Clemens, T., Kovscek, A. R.
2011
- **A Combined Experimental and Simulation Workflow to Improve Predictability of In Situ Combustion** *Western North America Regional Meeting*
Bazargan, M., Chen, B., Cinar, M., Glatz, G., Lapene, A., Zhu, Z., Castanier, L., Gerritsen, M., Kovscek, A. R.
2011
- **Fuel Formation During In-Situ Combustion** *SPE Annual Technical Conference and Exhibition*
Hascakir, B., Ross, C. M., Castanier, L. M., Kovscek, A. R.
2011
- **Thermally Induced Fracture Reconsolidation of Diatomite Under No Flow Conditions** *Western North America Regional Meeting*
Vega, B., Tang, G., Kovscek, A. R.
2011
- **Upscaling for Field-scale In-situ Combustion Simulation** *Western North America Regional Meeting*
Zhu, Z., Bazargan, M., Lapene, A., Gerritsen, M., Castanier, L., Kovscek, A.
2011
- **Improved Predictability of In-Situ Combustion Enhanced Oil Recovery** *Proceedings of the 2011 International Energy Agency EOR Symposium, Vienna Austria 17-19 October 2011*

Kavscek, A. R., Castanier, L. M., Gerritsen, M. G.
2011

- **Super insulated wells to protect permafrost during thermal oil recovery** *INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY*
Marques, C., Castanier, L. M., Kavscek, A. R.
2011; 4 (1): 4-30
- **Wettability estimation of low-permeability, siliceous shale using surface forces** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Takahashi, S., Kavscek, A. R.
2010; 75 (1-2): 33-43
- **Untitled** *SPE JOURNAL*
Kavscek, A. R.
2010; 15 (3): 586-586
- **Time-Dependent Shape Factors for Uniform and Non-Uniform Pressure Boundary Conditions** *TRANSPORT IN POROUS MEDIA*
Rangel-German, E. R., Kavscek, A. R., Akin, S.
2010; 83 (3): 591-601
- **Modeling Foam Displacement With the Local-Equilibrium Approximation: Theory and Experimental Verification** *2008 SPE Annual Technical Conference and Exhibition*
Chen, Q., Gerritsen, M. G., Kavscek, A. R.
SOC PETROLEUM ENG.2010: 171-83
- **Spontaneous countercurrent imbibition and forced displacement characteristics of low-permeability, siliceous shale rocks** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Takahashi, S., Kavscek, A. R.
2010; 71 (1-2): 47-55
- **An Experimental Investigation Of In-Situ Combustion In Heterogeneous Media** *Canadian Unconventional Resources & International Petroleum Conference*
Awoleke, O. G., Castanier, L. M., Kavscek, A. R.
2010
- **Storage of Greenhouse Gases in Oil and Gas Reservoirs** *Developments and Innovation in Carbon Capture and Storage (CCS) Technology*
Vega, B., Kavscek, A. R.
edited by Maroto-Valer, M. M.
Woodhead Publishing LTD, Cambridge, UK.2010
- **Improving Steam-Assisted Gravity Drainage Using Mobility Control Foams: Foam Assisted-SAGD (FA-SAGD)** *SPE Improved Oil Recovery Symposium*
Chen, Q., Gerritsen, M., Kavscek, A.
2010
- **Inaccessible Pore Volume of Associative Polymer Floods** *SPE Improved Oil Recovery Symposium*
Pancharoen, M., Thiele, M. R., Kavscek, A. R.
2010
- **Experimental Investigation of Oil Recovery From Siliceous Shale by Miscible CO₂ Injection** *SPE Annual Technical Conference and Exhibition*
Vega, B., O'Brien, W. J., Kavscek, A. R.
2010
- **Reservoir Simulation of Cyclic Steam Injection Including the Effects of Temperature Induced Wettability Alteration** *Western North America Regional Meeting*
Hascakir, B., Kavscek, A. R.
2010
- **Isoconversional Kinetic Analysis of the Combustion of Heavy Hydrocarbons** *ENERGY & FUELS*
Cinar, M., Castanier, L. M., Kavscek, A. R.
2009; 23 (8): 4003-4015
- **Oil chemistry and its impact on heavy oil solution gas drive** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Peng, J., Tang, G., Kavscek, A. R.

2009; 66 (1-2): 47-59

- **Spontaneous imbibition and wettability characteristics of Powder River Basin coal** *INTERNATIONAL JOURNAL OF COAL GEOLOGY*
Chaturvedi, T., Schembre, J. M., Kavscek, A. R.
2009; 77 (1-2): 34-42
- **Pore-Level Mechanics of Forced and Spontaneous Imbibition of Aqueous Surfactant Solutions in Fractured Porous Media** *SPE Annual Technical Conference and Exhibition*
Alshehri, A. J., Sagatov, E., Kavscek, A. R.
2009
- **Overview-Heavy Oil** *Journal of Petroleum Technology*
Kavscek, A. R.
2009; 61 (3): 76
- **Spontaneous Countercurrent Imbibition and Forced Displacement Characteristics of Low-Permeability, Siliceous Shale Rocks** *SPE Western Regional Meeting*
Takahashi, S., Kavscek, A. R.
2009
- **The Displacement of Viscous Oil by Associative Polymer Solutions** *SPE Annual Technical Conference and Exhibition*
Buchgraber, M., Clemens, T., Castanier, L. M., Kavscek, A. R.
2009
- **Thaw Front Dynamics and Super Insulated Wells for Thermal Recovery in Cold Environments** *SPE Western Regional Meeting*
Marques, C., Castanier, L. M., Kavscek, A. R.
2009
- **Isoconversional Kinetic Analysis of the Combustion of Heavy Hydrocarbons** *SPE Western Regional Meeting*
Cinar, M., Castanier, L. M., Kavscek, A. R.
2009
- **Effects of Reservoir Heterogeneities on the Steam-Assisted Gravity-Drainage Process** *SPE RESERVOIR EVALUATION & ENGINEERING*
Chen, Q., Gerritsen, M. G., Kavscek, A. R.
2008; 11 (5): 921-932
- **Sorption-induced permeability change of coal during gas-injection processes** *SPE RESERVOIR EVALUATION & ENGINEERING*
Lin, W., Tang, G., Kavscek, A. R.
2008; 11 (4): 792-802
- **Laboratory and simulation investigation of enhanced coalbed methane recovery by gas injection** *TRANSPORT IN POROUS MEDIA*
Jessen, K., Tang, G., Kavscek, A. R.
2008; 73 (2): 141-159
- **Authors' reply to discussion of interrelationship of temperature and wettability on the relative permeability of heavy oil in diatomaceous rocks** *SPE RESERVOIR EVALUATION & ENGINEERING*
Kavscek, A. R., Schembro, J. M., Tang, G.
2008; 11 (3): 437-438
- **Combination of well log and pore-scale data to predict petrophysical properties of diatomite** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Akin, S., Ross, C. M., Kavscek, A. R.
2008; 60 (3-4): 133-149
- **Alteration of Reservoir Diatomites by Hot Water Injection** *SPE Western Regional Meeting*
Ikeda, M., Tang, G., Ross, C. M., Kavscek, A. R.
2008
- **Modeling Foam Displacement with the Local Equilibrium Approximation: Theory and Experiment Verification** *SPE Annual Technical Conference and Exhibition*
Chen, Q., Gerritsen, M. G., Kavscek, A. R.
2008

- **Enhanced Oil Recovery Using Aqueous Phase Chemicals, Miscible Gas Injection, and Thermal Means, in Petroleum Engineering-Upstream** *Encyclopedia of Life Support Systems (EOLSS)*
Kavscek, A. R.
edited by Mesini, E., Macini, P.
2008
- **Polymer Augmented Waterflooding** *Encyclopedia of Petroleum Science & Engineering*
Kavscek, A. R.
edited by Antos, G. J.
Marcel Dekker, New York.2008
- **Overview-Heavy Oil** *Journal of Petroleum Technology*
Kavscek, A. R.
2008; 60 (3): 84
- **Petroleum Recovery** *Encyclopedia of Petroleum Science & Engineering*
Kavscek, A. R.
edited by Antos, G. J.
Marcel Dekker, New York.2008
- **Foam Transport in Porous Media** *Encyclopedia of Petroleum Science & Engineering*
Kavscek, A. R., Radke , C. J.
edited by Antos, G. J.
Marcel Dekker, New York.2008
- **Laboratory investigation of the effect of solvent injection on in-situ combustion** *SOC PETROLEUM ENG.*
Cristofari, J., Castanier, L. M., Kavscek, A. R.
2008: 153-163
- **Immiscible Carbon Dioxide Displacement** *Encyclopedia of Petroleum Science & Engineering*
Kavscek, A. R.
edited by Speight, J. G.
Marcel Dekker, New York.2008
- **Experimental Investigation of Oil Recovery From Siliceous Shale by CO2 Injection** *SPE Annual Technical Conference and Exhibition*
Kavscek, A., Tang, G., Vega , B.
2008
- **Improved Analysis of the Kinetics of Crude-Oil In-Situ Combustion** *SPE Western Regional Meeting*
Cinar, M., Castanier, L. M., Kavscek, A. R.
2008
- **Correlation of Cold Production Behavior with Acid/Base Number and Asphaltene Content of Heavy Oil, SPE 114196** *Proceedings of the SPE Western Regional Meeting, Bakersfield, CA. 31 Mar - 2 Apr 2008*
Peng, J., Tang, G. Q., Kavscek, A. R.
2008
- **A pore-network-modeling approach to predict petrophysical properties of diatomaceous reservoir rock** *2005 SPE Western Regional Meeting*
Jia, L., Ross, C. M., Kavscek, A. R.
SOC PETROLEUM ENG.2007: 597-608
- **Verification of Roof snap off as a foam-generation mechanism in porous media at steady state** *COLLOIDS AND SURFACES A-PHYSICO-CHEMICAL AND ENGINEERING ASPECTS*
Kavscek, A. R., Tang, G., RADKE, C. J.
2007; 302 (1-3): 251-260
- **Forced imbibition in natural porous media: Comparison between experiments and continuum models** *PHYSICAL REVIEW E*
Riaz, A., Tang, G., Tchelepi, H. A., Kavscek, A. R.
2007; 75 (3)

- **Sorption-Induced Permeability Change of Coal During Gas-Injection Processes, SPE-109855** , *Proceedings of the SPE Annual Technical Conference and Exhibition, Anaheim, CA*
Lin, W., Tang, G. Q., Kavscek, A. R.
2007
- **Overview-Heavy Oil** *Journal of Petroleum Technology*
Kavscek, A. R.
2007; 59 (4): 82
- **Effects of Reservoir Heterogeneities on the Steam-Assisted Gravity Drainage Process** *SPE Annual Technical Conference and Exhibition*
Chen, Q., Gerritsen, M. G., Kavscek, A. R.
2007
- **Multicomponent Sorption Modeling in ECBM Displacement Calculations** *SPE Annual Technical Conference and Exhibition*
Jessen, K., Tang, G., Kavscek, A. R.
2007
- **Oil Recovery and Fracture Reconsolidation of Diatomaceous Reservoir Rock by Water Imbibition at High Temperature** *SPE Annual Technical Conference and Exhibition*
Ikeda, M., Tang, G., Ross, C. M., Kavscek, A. R.
2007
- **Time-dependent matrix-fracture shape factors for partially and completely immersed fractures** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Rangel-German, E. R., Kavscek, A. R.
2006; 54 (3-4): 149-163
- **Trapped gas fraction during steady-state foam flow** *2004 SPE Annual Technical Conference and Exhibition*
Tang, G., Kavscek, A. R.
SPRINGER.2006: 287-307
- **Estimation of dynamic relative permeability and capillary pressure from countercurrent imbibition experiments** *TRANSPORT IN POROUS MEDIA*
Schembre, J. M., Kavscek, A. R.
2006; 65 (1): 31-51
- **A laboratory investigation of temperatrue-induced sand consolidation** *2005 SPE Western Regional Meeting*
Ross, C. M., Rangel-German, E. R., Castanier, L. M., Hara, P. S., Kavscek, A. R.
SOC PETROLEUM ENG.2006: 206-15
- **Wettability alteration and oil recovery by water imbibition at elevated temperatures** *8th International Symposium on Reservoir Wettability*
Schembre, J. M., Tang, G., Kavscek, A. R.
ELSEVIER SCIENCE BV.2006: 131-48
- **Heavy-oil solution gas drive in consolidated and unconsolidated rock** *2004 SPE International Thermal Operations and Heavy Oil Symposium/Western Regional Meeting*
Tang, G., Sahni, A., Gabelle, F., Kumar, M., Kavscek, A. R.
SOC PETROLEUM ENG.2006: 259-68
- **Interrelationship of temperature and wettability on the relative permeability of heavy oil in diatomaceous rocks** *2005 SPE Western Regional Meeting*
Schembre, J. M., Tang, G., Kavscek, A. R.
SOC PETROLEUM ENG.2006: 239-50
- **Nonequilibrium effects during spontaneous imbibition** *TRANSPORT IN POROUS MEDIA*
Le Guen, S. S., Kavscek, A. R.
2006; 63 (1): 127-146
- **A micromodel investigation of two-phase matrix-fracture transfer mechanisms** *WATER RESOURCES RESEARCH*
Rangel-German, E. R., Kavscek, A. R.
2006; 42 (3)

- **An investigation of the effect of oil composition on heavy-oil solution gas drive** *2003 SPE Annual Technical Conference and Exhibition*
Tang, G. Q., Leung, T., Castanier, L. M., Sahni, A., Gabelle, F., Kumar, M., Kavscek, A. R.
SOC PETROLEUM ENG.2006: 58–70
- **Asphaltene deposition during steam-assisted gravity drainage: Effect of non-condensable gases** *PETROLEUM SCIENCE AND TECHNOLOGY*
Canbolat, S., Akin, S., Kavscek, A. R.
2006; 24 (1): 69-92
- **Laboratory Investigation of the Effect of Solvent Injection on In-Situ Combustion, SPE 99752** *Proceedings of the SPE Symposium on Improved Oil Recovery, Tulsa, OK Apr 22-26, 2006*
Cristofari, J., Castanier, L. M., Kavscek, A. R.
2006
- **Overview -Heavy Oil** *Journal of Petroleum Technology*
Kavscek, A. R.
2006; 58 (4): 97
- **The Role of Oil Chemistry on Cold Production of Heavy Oils** *SPE Annual Technical Conference and Exhibition*
Tang, G., Temizel, C., Kavscek, A. R.
2006
- **Laboratory Investigation of the Effect of Solvent Injection on In-Situ Combustion** *SPE/DOE Symposium on Improved Oil Recovery*
Cristofari, J., Castanier, L., Kavscek, A.
2006
- **Petroleum Coke** *The World Book Encyclopedia*
Kavscek, A. R.
2006; 15: X350
- **Interpretation of Heat Distribution, Remaining Oil Saturation, and Steamflood Potential of Block Wa38, Liaohe Field,** *SPE Annual Technical Conference and Exhibition*
Gao, Y., Castanier, L. M., Kavscek, A. R.
2006
- **Time-Dependent Shape Factors for Partially and Completely Immersed Fractures** *Journal of Petroleum Science and Engineering*
Rangel-German, E. R., Kavscek, A. R.
2006; 54: 149-163
- **Mechanism of formation damage at elevated temperature** *JOURNAL OF ENERGY RESOURCES TECHNOLOGY-TRANSACTIONS OF THE ASME*
Schembre, J. M., Kavscek, A. R.
2005; 127 (3): 171-180
- **Geologic storage of carbon dioxide and enhanced oil recovery. I. Uncertainty quantification employing a streamline based proxy for reservoir flow simulation** *ENERGY CONVERSION AND MANAGEMENT*
Kavscek, A. R., Wang, Y.
2005; 46 (11-12): 1920-1940
- **Geologic storage of carbon dioxide and enhanced oil recovery. II. Cooptimization of storage and recovery** *ENERGY CONVERSION AND MANAGEMENT*
Kavscek, A. R., Cakici, M. D.
2005; 46 (11-12): 1941-1956
- **Displacement front stability of steam injection into high porosity diatomite rock** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Hoffman, B. T., Kavscek, A. R.
2005; 46 (4): 253-266
- **A microvisual study of solution-gas-drive mechanisms in viscous oils** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
George, D. S., Hayat, O., Kavscek, A. R.
2005; 46 (1-2): 101-119
- **Increasing CO2 storage in oil recovery** *ENERGY CONVERSION AND MANAGEMENT*

- Jessen, K., Kovscek, A. R., Orr, F. M.
2005; 46 (2): 293-311
- **Laboratory and Simulation Investigation of Enhanced Coalbed Methane Recovery by Gas Injection** *SPE Annual Technical Conference and Exhibition*
Tang, G., Jessen, K., Kovscek, A. R.
2005
 - **A Laboratory Investigation of Temperature Induced Sand Consolidation** *SPE Western Regional Meeting*
Ross, C. M., Rangel-German, E. R., Castanier, L. M., Kovscek, A. R.
2005
 - **Overview-Heavy Oil** *Journal of Petroleum Technology*
Kovscek, A. R.
2005; 57 (6): 62
 - **Matrix Fracture Shape Factors and Multiphase Flow Properties of Fractured Porous Media** *SPE Latin America and Caribbean Petroleum Engineering Conference*
Rangel-German, E. R., Kovscek, A. R.
2005
 - **Improved In-Situ Combustion Performance with Metallic Salt Additives** *SPE Western Regional Meeting*
He, B., Chen, Q., Castanier, L. M., Kovscek, A. R.
2005
 - **Effect of Temperature on Relative Permeability for Heavy-Oil Diatomite Reservoirs** *SPE Western Regional Meeting*
Schembre, J. M., Tang, G., Kovscek, A. R.
2005
 - **A Pore Network Modeling Approach to Predict Petrophysical Properties of Diatomaceous Reservoir Rock** *Proceedings of the SPE Western Regional Meeting*
Jia, L., Ross, C. M., Kovscek, A. R.
2005: 2005
 - **A direct sequential simulation approach to streamline-based history matching** *7th International Geostatistics Congress*
Caers, J., Gross, H., Kovscek, A. R.
SPRINGER.2005: 1077–1086
 - **Electrical-heating-assisted recovery for heavy oil** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Rangel-German, E. R., Schembre, J., Sandberg, C., Kovscek, A. R.
2004; 45 (3-4): 213-231
 - **Noncondensable gas steam-assisted gravity drainage** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Canbolat, S., Akin, S., Kovscek, A. R.
2004; 45 (1-2): 83-96
 - **An experimental investigation of the effect of temperature on recovery of heavy oil from diatomite** *SPE JOURNAL*
Tang, G. Q., Kovscek, A. R.
2004; 9 (2): 163-?
 - **Experiments and analysis of heavy-oil solution-gas drive** *2001 SPE Annual Technical Conference and Exhibition*
Sahni, A., Gabelle, F., Kumar, M., Tomutsa, L., Kovscek, A. R.
SOC PETROLEUM ENG.2004: 217–29
 - **Efficiency and oil recovery mechanisms of steam injection into low permeability, hydraulically fractured reservoirs** *PETROLEUM SCIENCE AND TECHNOLOGY*
Hoffman, B. T., Kovscek, A. R.
2004; 22 (5-6): 537-564
 - **Measurement and Theory of Gas Trapping in Porous Media During Steady-State Foam Flow** *SPE Annual Technical Conference and Exhibition*,
Tang, G., Kovscek, A. R.
2004

- **Heavy-Oil Solution Gas Drive in Consolidated and Unconsolidated Rock** *SPE International Thermal Operations and Heavy Oil Symposium and Western Regional Meeting*
Tang, G., Sahni, A., Gabelle, F., Kumar, M., Kovscek, A. R.
2004
- **Experimental Investigation and High Resolution Simulator of In-Situ Combustion: 1. Simulator Design and Improved Combustion With Metallic Additives** *SPE International Thermal Operations and Heavy Oil Symposium and Western Regional Meeting*
Gerritsen, M., Kovscek, A. R., Castanier, L., Nilsson, J., Younis, R., He, B.
2004
- **Thermally Induced Fines Migration: Its Relationship to Wettability and Formation Damage, SPE 86937** *SPE International Thermal Operations and Heavy Oil Symposium and Western Regional Meeting*
Schembre, J. M., Kovscek, A. R.
2004
- **Steamdrive Stability in High Porosity Rock** *SPE International Thermal Operations and Heavy Oil Symposium and Western Regional Meeting*
Hoffman, B. T., B. T., Kovscek, A. R., A. R.
2004
- **Code Intercomparison Builds Confidence in Numerical Simulation Models for Geologic Disposal of CO₂** *Energy*
Pruess, K., Garcia, J., Kovscek, A. R., C. Oldenburg, J. Rutqvist, Steefel, C., Xu, T.
2004; 29: 1431-1444
- **Experimental Determination of Time-Dependent Matrix-Fracture Shape Factors for Different Geometries and Fracture Filling Regimes, SPE 92131** *SPE International Petroleum Conference*
Chaobal, A., A., Rangel-German, E. R., E. R., Kovscek, A. R., A. R.
2004
- **Streamline-Based History Matching Using Geostatistical Constraints: Application to a Giant Mature Carbonate Reservoir** *SPE Annual Technical Conference and Exhibition*
Gross, H., Thiele, M. R., Alexa, M. J., Caers, J. K., Kovscek, A. R.
2004
- **Microvisual Analysis of Matrix-Fracture Interaction** *SPE International Petroleum Conference in Mexico*
Rangel-German, E. R., Kovscek, A. R.
2004
- **Analytical theory of coalbed methane recovery by gas injection** *2002 SPE/DOE Improved Oil Recovery Symposium*
Zhu, J. C., Jessen, K., Kovscek, A. R., Orr, F. M.
SOC PETROLEUM ENG.2003: 371-79
- **Special issue - Honoring Professor W.E. Brigham - Preface** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Kovscek, A. R.
2003; 39 (1-2): 1-3
- **A technique for measuring two-phase relative permeability in porous media via X-ray CT measurements** *Brigham Symposium*
Schembre, J. M., Kovscek, A. R.
ELSEVIER SCIENCE BV.2003: 159-74
- **Foam mobility in heterogeneous porous media - (II: Experimental observations)** *TRANSPORT IN POROUS MEDIA*
Kovscek, A. R., Bertin, H. J.
2003; 52 (1): 37-49
- **Foam mobility in heterogeneous porous media - (I: Scaling concepts)** *TRANSPORT IN POROUS MEDIA*
Kovscek, A. R., Bertin, H. J.
2003; 52 (1): 17-35
- **A mechanistic modeling and experimental study of solution gas drive** *TRANSPORT IN POROUS MEDIA*
Arora, P., Kovscek, A. R.
2003; 51 (3): 237-265

- **Integrating production history into reservoir models using streamline-based time-of-flight ranking** *PETROLEUM GEOSCIENCE*
Wang, Y., Kovscek, A. R.
2003; 9 (2): 163-174
- **Pressure-driven capillary snap-off of gas bubbles at low wetting-liquid content** *COLLOIDS AND SURFACES A-PHYSICO-CHEMICAL AND ENGINEERING ASPECTS*
Kovscek, A. R., RADKE, C. J.
2003; 212 (2-3): 99-108
- **Light-Oil Steamdrive in Fractured Low Permeability Reservoirs** *SPE Western Region/AAPG Pacific Section Joint Meeting*
Hoffman, B. T., Kovscek, A. R.
2003
- **Computed Tomography in Petroleum Engineering Research** *Geological Society, London, Special Publications*
Akin, S., Kovscek, A. R.
2003; 215: 23-28
- **Time-Dependent Matrix-Fracture Shape Factors for Partially and Completely Immersed Fractures, SPE 84411** *Proceedings of the SPE Annual Technical Conference and Exhibition, Denver, CO Oct. 5-8*
Rangel-German, E. R., Kovscek, A. R.
2003
- **Analytical Solutions for Coal-Bed Methane Displacement by Gas Injection** *SPE Journal*
Zhu, J., Jessen, K., Kovscek, A. R., Orr Jr., F. M.
2003; 8 (4)
- **Time Dependent Shape Factors for Uniform and Non-Uniform Pressure Boundary Conditions** *Geothermal Resources Council Annual Meeting*
Rangel-German, E. R., Kovscek, A. R., Akin, S.
2003
- **Computed Tomography in Petroleum Engineering Research** *Applications of X-ray Computed Tomography in the Geosciences*
Akin, S., Kovscek, A. R.
edited by Mees, F., Swennen, R., Van Geet, M., Jacobs, P.
Geological Society Publications.2003
- **An Investigation of the Effect of Oil Composition on Heavy Oil Solution Gas Drive** *SPE Annual Technical Conference and Exhibition*
Tang, G., Leung, Y., Castanier, L. M., Sahni, A., Gadelle, F., Kumar, M., Kovscek, A. R.
2003: 2003
- **Experimental and analytical study of multidimensional imbibition in fractured porous media** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Rangel-German, E. R., Kovscek, A. R.
2002; 36 (1-2): 45-60
- **A geostatistical approach to streamline-based history matching** *SPE JOURNAL*
Caers, J., Krishnan, S., Wang, Y. D., Kovscek, A. R.
2002; 7 (3): 250-266
- **Heavy-oil solution gas drive: a laboratory study** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Akin, S., Kovscek, A. R.
2002; 35 (1-2): 33-48
- **Scaling of counter-current imbibition processes in low-permeability porous media** *6th International Symposium on Reservoir Wettability and Its Effect on Oil Recovery*
Zhou, D., Jia, L., Kamath, J., Kovscek, A. R.
ELSEVIER SCIENCE BV.2002: 61-74
- **Screening criteria for CO₂ storage in oil reservoirs** *PETROLEUM SCIENCE AND TECHNOLOGY*
Kovscek, A. R.
2002; 20 (7-8): 841-866

- **Analytical Solutions for Coal-Bed Methane Displacement by Gas Injection, SPE 75255** *Proceedings of the SPE/DOE Thirteenth Symposium on Improved Oil Recovery, Tulsa, OK April 13-17*
Zhu, J., Jessen, K., Kovscek, A. R., Orr, Jr., F. M.
2002
- **Petroleum Recovery** *Encyclopedia of Petroleum Science and Engineering*
Kovscek, A. R.
edited by Speight, J. G.
Marcel Dekker, New York.2002
- **Wettability Alteration of Diatomite Induced by Hot-Fluid Injection** *SPE Annual Technical Conference and Exhibition*
Tang, G., Kovscek, A. R.
2002
- **Polymer Augmented Waterflooding** *Encyclopedia of Petroleum Science and Engineering*
Kovscek, A. R.
edited by Speight, J. G.
Marcel Dekker, New York.2002
- **A Study of Steam-Assisted Gravity Drainage Performance in the Presence of Noncondensable Gases** *SPE/DOE Improved Oil Recovery Symposium*
Serhat, C., Serhat, A., Kovscek, A.
2002
- **Immiscible Carbon Dioxide Displacement** *Encyclopedia of Petroleum Science and Engineering*
Kovscek, A. R.
edited by Speight, J. G.
Marcel Dekker, New York.2002
- **Mechanistic Modeling of Solution-Gas Drive in Viscous Oils** *Journal of Petroleum Technology*
Arora, P., Kovscek, A. R.
2002; 53 (6): 48-49
- **Experimental Study of Heavy Oil Production from Diatomite Core at Elevated Temperatures** *SPE/DOE Thirteenth Symposium on Improved Oil Recovery*
Tang, G. Q., Kovscek, A. R.
2002
- **Estimation of Foam Mobility in Heterogeneous Porous Media** *SPE/DOE Thirteenth Symposium on Improved Oil Recovery*
Kovscek, A. R., , A. R., Bertin, H. J., H. J.
2002
- **Pore Microstructure and Fluid Distribution in a Diatomaceous Reservoir** *SPE/DOE Thirteenth Symposium on Improved Oil Recovery*,
Ross, C. M., Kovscek, A. R.
2002
- **A Streamline Approach for Ranking Reservoir Models that Incorporates Production History** *SPE Annual Technical Conference and Exhibition*
Wang, Y., Kovscek, A. R.
2002
- **Surfactant concentration and end effects on foam flow in porous media** *TRANSPORT IN POROUS MEDIA*
Apaydin, O. G., Kovscek, A. R.
2001; 43 (3): 511-536
- **A numerical analysis of the single-well steam assisted gravity drainage process (SW-SAGD)** *PETROLEUM SCIENCE AND TECHNOLOGY*
Elliot, K. T., Kovscek, A. R.
2001; 19 (7-8): 733-760
- **An Investigation of Counter-Current Imbibition Processes in Diatomite** *SPE Western Regional Meeting*
Zhou, D., Jia, L., Kamath, J., Kovscek, A. R.
2001

- **Increasing CO2 Storage in Oil Recovery** *First National Conference on Carbon Sequestration*
Jessen, K., Sam-Olibale, L. C., Kovscek, A. R., Orr, F. M.
2001
- **Water Infiltration in Fractured Systems: Experiments and Analytical Model** *SPE Annual Technical Conference and Exhibition*
Rangel-German, E. R., Kovscek, A. R.
2001
- **Direct Measurement of Dynamic Relative Permeability from CT-Monitored Spontaneous Imbibition Experiments** *SPE Annual Technical Conference and Exhibition*
Schembre, J. M., Kovscek, A. R.
2001
- **Countercurrent Imbibition Processes in Diatomite** *Journal of Petroleum Technology*
Zhou, D., Jia, L., Kamath, J., Kovscek, A. R.
2001; 53: 44
- **Mechanistic Modeling of Solution Gas Drive in Viscous Oils** *SPE International Thermal Operations and Heavy Oil Symposium*
Arora, P., Kovscek, A. R.
2001
- **Porosity and permeability evolution accompanying hot fluid injection into diatomite** *PETROLEUM SCIENCE AND TECHNOLOGY*
Diabira, I., Castanier, L. M., Kovscek, A. R.
2001; 19 (9-10): 1167-1185
- **Streamline approach for history matching production data** *SPE JOURNAL*
Wang, Y., Kovscek, A. R.
2000; 5 (4): 353-362
- **Spontaneous imbibition characteristics of diatomite** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Akin, S., Schembre, J. M., Bhat, S. K., Kovscek, A. R.
2000; 25 (3-4): 149-165
- **Matrix-Fracture Interactions in Single Matrix Blocks**, *Twenty-Fifth Workshop on Geothermal Reservoir Engineering*
Rangel-German, E. R., Kovscek, A. R.
2000
- **Transient Foam Flow in Homogeneous Porous Media: Surfactant Concentration and End Effects** *SPE/DOE Improved Oil Recovery Symposium*
Apaydin, O. G., Kovscek, A. R.
2000
- **An Experimental Investigation of Permeability and Porosity Alteration in Diatomite During Hot Fluid Injection** *SPE Western Regional Meeting*
Kovscek, A. R., Diabira, I., Castanier, L. M.
2000
- **A Streamline Approach for History Matching Production Data SPE 59370** *SPE/DOE Improved Oil Recovery Symposium, Tulsa, OK April 3-5*
Wang, Y., Kovscek, A. R.
2000
- **Foam Flow in Heterogeneous Porous Media: Effect of Cross Flow** *SPE JOURNAL*
Bertin, H. J., Apaydin, O. G., Castanier, L. M., Kovscek, A. R.
1999; 4 (2): 75-82
- **Statistical network theory of silica deposition and dissolution in diatomite** *IN SITU*
Bhat, S. K., Kovscek, A. R.
1999; 23 (1): 21-53
- **A Numerical Analysis of the Single-Well Steam Assisted Gravity Drainage** *20th Annual International Energy Agency Workshop and Symposium*
Elliot, K. E., Kovscek, A. R.
1999

- **Simulation of Early-Time Response of Single- Well Steam Assisted Gravity Drainage** *SPE Western Regional Meeting*
Elliot, K. E., Kovscek, A. R.
1999
- **Foam flow in heterogeneous porous media: Effect of crossflow** *SPE/DOE Improved Oil Recovery Symposium*
Bertin, H. J., Apaydin, O. G., Castanier, L. M., Kovscek, A. R.
1999: 75–82
- **Imbibition Studies in Low-Permeability Porous Media** *SPE Western Regional Meeting*
Akin, S., Kovscek, A. R.
1999
- **Effect of mobility ratio on pattern behavior of a homogeneous porous medium** *IN SITU*
Wang, Y., Kovscek, A. R., Brigham, W. E.
1999; 23 (1): 1-20
- **Permeability modification of diatomite during hot-fluid injection** *Journal of Petroleum Technology*
Bhat, S. K., Kovscek, A. R.
1998; 50: 98-100
- **Spontaneous water imbibition into diatomite** *SPE Western Regional Meeting*
Schembre, J. M., Akin, S., Castanier, L. M., Kovscek, A. R.
1998
- **Effect of mobility ratio on areal sweep efficiency and pattern flood behavior** *19th Annual International Energy Agency Workshop and Symposium*
Wang, Y., Kovscek, A. R., Brigham, W. E.
1998
- **Foam flow in heterogeneous porous media: Effect of crossflow. SPE 39678** *SPE/DOE Improved Oil Recovery Symposium, Tulsa*
Bertin, H. J., Apaydin, O. G., Castanier, L. M., Kovscek, A. R.
1998
- **Reservoir simulation of foam displacement processes** *7th UNITAR International Conference on Heavy Crude and Tar Sands*
Kovscek, A. R.
1998
- **Permeability modification of diatomite during hot fluid injection** *SPE Western Regional Meeting*
Bhat, S. K., Kovscek, A. R.
1998
- **Evaluation of rock/fracture interactions during steam injection through vertical hydraulic fractures** *1995 SPE Western Regional Meeting*
Kovscek, A. R., Johnston, R. M., Patzek, T. W.
SOC PETROLEUM ENG.1997: 100–105
- **Gas bubble snap-off under pressure-driven flow in constricted noncircular capillaries** *COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS*
Kovscek, A. R., RADKE, C. J.
1996; 117 (1-2): 55-76
- **Interpretation of hydrofracture geometry during steam injection using temperature transients .2. Asymmetric hydrofractures** *IN SITU*
Kovscek, A. R., Johnston, R. M., Patzek, T. W.
1996; 20 (3): 289-309
- **Interpretation of hydrofracture geometry during steam injection using temperature transients .1. Model formulation and verification** *IN SITU*
Kovscek, A. R., Johnston, R. M., Patzek, T. W.
1996; 20 (3): 251-288
- **Dividing oil fields into regions with similar characteristic behavior using neural network and fuzzy logic approaches** *1996 Biennial Conference of the North-American-Fuzzy-Information-Processing-Society*
Nikravesh, M., Kovscek, A. R., Patzek, T. W.

IEEE.1996: 164-169

- **A MECHANISTIC POPULATION BALANCE MODEL FOR TRANSIENT AND STEADY-STATE FOAM FLOW IN BOISE SANDSTONE** *CHEMICAL ENGINEERING SCIENCE*
Kavscek, A. R., Patzek, T. W., RADKE, C. J.
1995; 50 (23): 3783-3799
- **FOAM FLOW-THROUGH A TRANSPARENT ROUGH-WALLED ROCK FRACTURE** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Kavscek, A. R., Tretheway, D. C., Persoff, P., RADKE, C. J.
1995; 13 (2): 75-86
- **FUNDAMENTALS OF FOAM TRANSPORT IN POROUS-MEDIA** *FOAMS: FUNDAMENTALS AND APPLICATIONS IN THE PETROLEUM INDUSTRY*
Kavscek, A. R., RADKE, C. J.
1994; 242: 115-163
- **A PORE-LEVEL SCENARIO FOR THE DEVELOPMENT OF MIXED WETTABILITY IN OIL-RESERVOIRS** *AICHE JOURNAL*
Kavscek, A. R., Wong, H., RADKE, C. J.
1993; 39 (6): 1072-1085