

# Stanford

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## Roland Horne

Thomas Davies Barrow Professor in the School of Earth Sciences and Senior Fellow at the Precourt Institute for Energy  
Energy Resources Engineering

### Bio

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#### BIO

Roland N. Horne is the Thomas Davies Barrow Professor of Earth Sciences at Stanford University, and Senior Fellow in the Precourt Institute for Energy. He holds BE, PhD and DSc degrees from the University of Auckland, New Zealand, all in Engineering Science.

He is best known for his work in well test interpretation, production optimization, and analysis of fractured reservoirs. So far in his academic career he has supervised the graduate research of 52 PhD and 125 MS students. He is an Honorary Member of the Society of Petroleum Engineers (SPE), and a member of the US National Academy of Engineering. He served on the International Geothermal Association (IGA) Board 1998-2001, 2001-2004, and 2007-2010, and was the 2010-2013 President of IGA.

Horne has been an SPE Distinguished Lecturer (1998 and 2009), and has been awarded the SPE Distinguished Achievement Award for Petroleum Engineering Faculty, the Lester C. Uren Award, and the John Franklin Carl Award. From Society of Exploration Geophysicists (SEG), he received the Best Paper in "Geophysics" in 2011, and from SPE he received Best Paper in Journal of Petroleum Technology (1992) and Best Paper in SPE Formation Evaluation (1993). He has also received five Best Paper awards from Geothermal Resources Council (GRC). He is a Fellow of the School of Engineering, University of Tokyo (2016) and also an Honorary Professor of China University of Petroleum – East China (2016).

#### ACADEMIC APPOINTMENTS

- Professor, Energy Resources Engineering
- Affiliate, Stanford Woods Institute for the Environment

#### ADMINISTRATIVE APPOINTMENTS

- Visiting Researcher(while on sabbatical), University of Tokyo, (2015-2016)
- Senior Fellow, Precourt Institute for Energy, Stanford University, (2010- present)
- Thomas Davies Barrow Professor of Earth Sciences, Stanford University, (2008- present)
- Senior Fellow by Courtesy, Woods Institute for the Environment, (2008-2010)
- Professor of Energy Resources Engineering, Stanford University, (2006- present)
- Visiting Scientist, RITE, Kyoto, Japan (while on sabbatical), Research Institute for Innovative Technology for the Earth (RITE), (2005-2005)
- Professor of Petroleum Engineering, Stanford University, (1991-2006)
- Visiting Scientist, (while on sabbatical), Mobil Exploration and Production Services Inc., (1990-1990)
- Visiting Professor of Petroleum Engineering (while on sabbatical), Heriot-Watt University, (1989-1989)

- Associate Professor of Petroleum Engineering, Stanford University, (1984-1991)
- Assistant Professor of Petroleum Engineering, Stanford University, (1981-1984)
- Acting Assistant Professor of Petroleum Engineering, Stanford University, (1980-1980)
- Lecturer, Geothermal Institute, University of Auckland, (1978-1979)
- Acting Assistant Professor of Petroleum Engineering, Stanford University, (1977-1978)
- Acting Assistant Professor of Chemical Engineering, Stanford University, (1976-1977)
- Energy Research Fellow, University of Auckland, (1974-1976)

## **HONORS AND AWARDS**

- Fellow, School of Engineering, University of Tokyo (2017)
- Honorary Professor, China University of Petroleum (2016)
- Geothermal Special Achievement Award, Geothermal Resources Council (2015)
- Best Paper in 'Geophysics', Society of Exploration Geophysicists (2012)
- Patricius Medal, German Geothermal Society (2011)
- SPE Distinguished Lecturer, Society of Petroleum Engineers (2009-2010)
- Guest Professor, China University of Petroleum (2007-2012)
- SPE Honorary Member, Society of Petroleum Engineers (2007)
- School of Earth Sciences Teaching Award, Stanford University (2007)
- Henry J. Ramey, Jr., Geothermal Reservoir Engineering Award, Geothermal Resources Council (2006)
- Geothermal Resources Council Best Paper Award, Geothermal Resources Council (2005)
- John Franklin Carll Award, Society of Petroleum Engineers (2005)
- Elected Member, National Academy of Engineering (2002)
- Geothermal Resources Council Best Paper Award (2), Geothermal Resources Council (2002)
- Geothermal Resources Council Best Paper Award, Geothermal Resources Council (2000)
- Lester C. Uren Award, Society of Petroleum Engineers (2000)
- SPE Distinguished Member, Society of Petroleum Engineers (2000)
- SPE Distinguished Lecturer, Society of Petroleum Engineers (1997-1998)
- Best Paper of 1993 Award, SPE Formation Evaluation, Society of Petroleum Engineers (1993)
- Best Paper of 1992 Award, Journal of Petroleum Technology, Society of Petroleum Engineers (1992)
- School of Earth Sciences Teaching Award, Stanford University (1989)
- SPE Distinguished Achievement Award for Petroleum Engineering Faculty, Society of Petroleum Engineers (1982)
- Fellow, Fulbright-Hays Traveling Fellowship (1977)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Department Review, Petroleum Engineering, University of Texas at Austin (2018 - 2018)
- Technical Program Chairman, World Geothermal Congress 2020, Iceland (2016 - present)
- Advisory Board, Energy Institute, Cornell University (2015 - present)
- Cochair, ATW on "Reservoir Testing to Add Production Value", Society of Petroleum Engineers (2015 - 2015)
- Chairman, Connecting the Dots Forum, Stanford University (2013 - 2013)
- Deputy Acting Director, Precourt Institute for Energy, Stanford University (2012 - 2013)

- Chair, Section 11, National Academy of Engineering (2012 - 2012)
- Department Review, Engineering Science, University of Auckland, New Zealand (2012 - 2012)
- Department Review, Geothermal Institute, University of Neuchâtel, Switzerland (2012 - 2012)
- Program Cochair, SPE Advanced Technology Workshop on Well Testing, Society of Petroleum Engineers (2012 - 2012)
- Technical Program Chairman, World Geothermal Congress 2015, Australia (2011 - 2015)
- Vice Chair, Section 11, National Academy of Engineering (2011 - 2012)
- President, International Geothermal Association (2010 - 2013)
- Secretary, Section 11, National Academy of Engineering (2010 - 2013)
- Cochairman, SPE Forum, Petrophysics Meets WellTesting, Society of Petroleum Engineers (2009 - 2010)
- Faculty Panelist, Judicial Affairs, Stanford University (2008 - present)
- Editorial Board, Geothermics (2007 - present)
- Board of Directors, International Geothermal Association (Relected) (2007 - 2016)
- Cochairman, SPE Advanced Technology Workshop on Reservoir Testing, Indonesia, Society of Petroleum Engineers (2006 - 2007)
- Panel Member, PhD Review, Texas A&M University (2006 - 2006)
- Visiting Professor, Universiti Teknologi Malaysia (2006 - 2006)
- Technical Program Chairman, World Geothermal Congress 2010, Indonesia (2005 - 2010)
- Chairman, Woods Energy Committee, Stanford University (2005 - 2009)
- Visiting Professor, Stanford Japan Center (2005 - 2005)
- Visiting Scientist, Research Institute for Innovative Technology for the Earth, Kyoto, Japan (2005 - 2005)
- Program Committee, SPE Advanced Technology Workshop, Kota Kinabalu, Malaysia, Society of Petroleum Engineers (2004 - 2004)
- Cochairman, SPE Asia-Pacific Forum, Phuket, Thailand, Society of Petroleum Engineers (2002 - 2003)
- Committee of Authors, SPE Monograph on Well Testing, Society of Petroleum Engineers (2001 - 2006)
- Technical Program Chairman, World Geothermal Congress 2005, Turkey (2001 - 2005)
- Board of Directors, International Geothermal Association (2001 - 2004)
- Chairman, Membership, International Geothermal Association (2001 - 2004)
- Program Committee, SPE Advanced Technology Workshop, Chiba, Japan, Society of Petroleum Engineers (2001 - 2001)
- Program Committee, SPE Annual Meeting 2002, Society of Petroleum Engineers (2001 - 2001)
- Program Committee, SPE Asia-Pacific Forum, Nusa Dua, Indonesia, Society of Petroleum Engineers (2001 - 2001)
- Chairman, Association of Petroleum Engineering Department Heads (2000 - 2001)
- Advisory Board, University of Auckland School of Engineering, New Zealand (2000 - 2000)
- Program Committee, SPE Annual Meeting 2001, Society of Petroleum Engineers (2000 - 2000)
- Secretary, Association of Petroleum Engineering Department Heads (1999 - 2000)
- Program Committee, SPE Annual Meeting 2000, Society of Petroleum Engineers (1999 - 1999)
- Board of Directors, International Geothermal Association (1998 - 2001)
- Chairman, Programing and Planning, International Geothermal Association (1998 - 2001)
- Chairman, Department of Petroleum Engineering, Stanford University (1995 - 2006)

## PROFESSIONAL EDUCATION

- D.Sc., University of Auckland , Engineering (1986)
- Ph.D., University of Auckland , Theoretical and Applied Mechanics (1975)

- B.E., University of Auckland , Theoretical and Applied Mechanics (1972)

## LINKS

- Geothermal: <http://pangea.stanford.edu/researchgroups/geothermal/>
- SUPRI-D: Well Testing: <http://pangea.stanford.edu/researchgroups/suprid/>
- Google Scholar: <https://scholar.google.com/citations?user=f1brNwEAAAAJ&hl=en&oi=ao>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

#### Research

Presently my research focuses on the matching of models to various classes of reservoir responses. These "inverse problems" seek the values of unknown reservoir parameters by inference rather than direct measurement. Typical problems are: tracer analysis of fractures, computer-aided well test analysis, production schedule optimization, and automated history matching/decline analysis. In addition to this general class of problem, I have specific interest in geothermal reservoir engineering, and the multiphase flow of boiling fluids through porous materials and fractures.

#### Teaching

I teach the undergraduate class, Fundamentals of Petroleum Engineering, as well as the graduate classes, Geothermal Reservoir Engineering, Well Test Analysis, and Optimization.

#### Professional Activities

School of Earth Sciences Teaching Award (2007); SPE Honorary Member (2007); Technical program chairman, World Geothermal Congress 2010 (2005-Present); chairman, Woods Institute Energy Committee (2005-2009); guest professor, China University of Petroleum (2007); visiting professor, Universiti Teknologi Malaysia (2006); invited speaker, Xerox PARC Forum (2006); invited speaker, SPE Golden Gate Section (2006); invited speaker, Petronas R&D Forum, Malaysia (2006); panel member, PhD Review, Texas A&M University (2006); Committee of Authors, SPE Monograph on Well Testing (2001-06); visiting professor, Stanford Japan Center (2005); visiting scientist, Research Institute for Innovative Technology for the Earth, Kyoto, Japan (2005); invited speaker, Osaka University (2005); invited speaker, Kyoto University, (2005); technical program chairman, World Geothermal Congress 2005, Turkey (2001-05); technical program chairman, World Geothermal Congress 2010, Indonesia (2006-10); program committee, SPE Advanced Technology Workshop, Kota Kinabalu, Malaysia (2004); Board of Directors, International Geothermal Association (2001-04, 2007-10 and 2010-13) [President, 2010-2013]

## Teaching

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### COURSES

#### 2020-21

- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)

#### 2019-20

- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)
- Fundamentals of Petroleum Engineering: ENERGY 120, ENGR 120 (Aut)
- Geothermal Reservoir Engineering: ENERGY 269 (Spr)
- Well Test Analysis: ENERGY 175 (Spr)

#### 2018-19

- ERE Master's Graduate Seminar: ENERGY 351 (Win)

- ERE PhD Graduate Seminar: ENERGY 352 (Win)
- Energizing California: ENERGY 101A (Spr)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Win)
- Fundamentals of Petroleum Engineering: ENERGY 120, ENGR 120 (Aut)
- Geothermal Reservoir Engineering: ENERGY 269 (Spr)
- Well Test Analysis: ENERGY 175 (Spr)

#### 2017-18

- Energizing California: ENERGY 101A (Spr)
- Fundamentals of Energy Processes: EE 293B, ENERGY 293B (Aut)
- Fundamentals of Petroleum Engineering: ENERGY 120, ENGR 120 (Aut)
- Well Test Analysis: ENERGY 175 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Yaxin Li, Zitong Zhou

#### Doctoral Dissertation Advisor (AC)

Ayaka Abe, Abdullah Alakeely, Halldora Gudmundsdottir, Rita Okoroafor

#### Master's Program Advisor

Jingru Cheng, Dang Ton

#### Doctoral (Program)

Xuhua Gao, Yuanjun Li, Albert Liu, Xunfeng Lu, Dante Orta Alemán

### Publications

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#### PUBLICATIONS

- **Experimental Study on Nano-/Microparticles Transport to Characterize Structures in Fractured Porous Media** *Rock Mechanics and Rock Engineering*  
Suzuki, A., Cui, J., Zhang, Y., Uehara, S., Li, K., Horne, R., Ito, T.  
2020
- **Contributions of 3D Printed Fracture Networks to Development of Flow and Transport Models** *TRANSPORT IN POROUS MEDIA*  
Suzuki, A., Minto, J. M., Watanabe, N., Li, K., Horne, R. N.  
2019; 129 (2): 485–500
- **Sequential-implicit Newton method for multiphysics simulation** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Wong, Z., Kwok, F., Horne, R. N., Tchelepi, H. A.  
2019; 391: 155–78
- **Applying Machine-Learning Techniques To Interpret Flow-Rate, Pressure, and Temperature Data From Permanent Downhole Gauges**  
Tian, C., Horne, R. N.  
SOC PETROLEUM ENG.2019: 386–401
- **Microbial Community Composition in Deep#Subsurface Reservoir Fluids Reveals Natural Interwell Connectivity** *Water Resources Research*  
Zhang, Y., Dekas, A., Hawkins, A., Parada, A., Gorbatenko, O., Li, K., Horne, R.  
2019
- **Time-lapse analysis of pressure transients due to ocean tides for estimating CO2 saturation changes** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*  
Sato, K., Horne, R. N.

2018; 78: 160–67

- **Sequential implicit nonlinear solver for geothermal simulation** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Wong, Z., Horne, R. N., Tchelepi, H. A.  
2018; 368: 236–53
- **Field observations at the Fenton Hill enhanced geothermal system test site support mixed-mechanism stimulation** *GEOTHERMICS*  
Norbeck, J. H., McClure, M. W., Horne, R. N.  
2018; 74: 135–49
- **Maximum magnitude of injection-induced earthquakes: A criterion to assess the influence of pressure migration along faults** *TECTONOPHYSICS*  
Norbeck, J. H., Horne, R. N.  
2018; 733: 108–18
- **Fracture network created by 3-D printer and its validation using CT images** *WATER RESOURCES RESEARCH*  
Suzuki, A., Watanabe, N., Li, K., Horne, R. N.  
2017; 53 (7): 6330–39
- **Evidence for a transient hydromechanical and frictional faulting response during the 2011 M-w 5.6 Prague, Oklahoma earthquake sequence** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Norbeck, J. H., Horne, R. N.  
2016; 121 (12): 8688-8705
- **Experimental tests of truncated diffusion in fault damage zones** *WATER RESOURCES RESEARCH*  
Suzuki, A., Hashida, T., Li, K., Horne, R. N.  
2016; 52 (11): 8578-8589
- **Detecting Fracture Growth Out of Zone by Use of Temperature Analysis** *SPE JOURNAL*  
Ribeiro, P. M., Horne, R. N.  
2016; 21 (4): 1263-1278
- **Physical Mechanisms Related to Microseismic-Depletion-Delineation Field Tests With Application to Reservoir Surveillance** *SPE JOURNAL*  
Norbeck, J. H., Horne, R. N.  
2016; 21 (4): 1279-1288
- **An embedded fracture modeling framework for simulation of hydraulic fracturing and shear stimulation** *COMPUTATIONAL GEOSCIENCES*  
Norbeck, J. H., McClure, M. W., Lo, J. W., Horne, R. N.  
2016; 20 (1): 1-18
- **Evaluating fractures in rocks from geothermal reservoirs using resistivity at different frequencies** *ENERGY*  
Li, K., Pan, B., Horne, R.  
2015; 93: 1230-1238
- **Silica Particles Mobility Through Fractured Rock** *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING*  
Alaskar, M., Li, K., Horne, R.  
2015; 40 (4): 1205-1222
- **Temperature nanotracers for fractured reservoirs characterization** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*  
Alaskar, M., Ames, M., Liu, C., Li, K., Horne, R.  
2015; 127: 212-228
- **The Utility of Threshold Reactive Tracers for Characterizing Temperature Distributions in Geothermal Reservoirs** *MATHEMATICAL GEOSCIENCES*  
Ames, M., Li, K., Horne, R.  
2015; 47 (1): 51-62
- **Inversion of Time-Lapse Electric Potential Data to Estimate Fracture Connectivity in Geothermal Reservoirs** *MATHEMATICAL GEOSCIENCES*  
Magnusdottir, L., Horne, R. N.  
2015; 47 (1): 85-104
- **An investigation of stimulation mechanisms in Enhanced Geothermal Systems** *INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES*

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- McClure, M. W., Horne, R. N.  
2014; 72: 242-260
- **Correlations between formation properties and induced seismicity during high pressure injection into granitic rock** *ENGINEERING GEOLOGY*  
McClure, M. W., Horne, R. N.  
2014; 175: 74-80
  - **Characterizing Hydraulic Fracturing With a Tendency-for-Shear-Stimulation Test** *SPE Annual Technical Conference and Exhibition*  
McClure, M., Horne, R.  
SOC PETROLEUM ENG.2014: 233-43
  - **In situ estimation of relative permeability from resistivity measurements** *PETROLEUM GEOSCIENCE*  
Li, K., Shapiro, M., Horne, R. N., Ma, S., Hajari, A., Mudhhi, M.  
2014; 20 (1): 143-151
  - **Characterization of fractured reservoirs using tracer and flow- rate data** *WATER RESOURCES RESEARCH*  
Juliussan, E., Horne, R. N.  
2013; 49 (5): 2327-2342
  - **Reservoir Description with Integrated Multiwell Data Using Two-Dimensional Wavelets** *MATHEMATICAL GEOSCIENCES*  
Awotunde, A. A., Horne, R. N.  
2013; 45 (2): 225-252
  - **Characterization of Fractured Reservoirs Using Tracer and Flow-Rate Data, Water Resour** *Water Resources Research*  
Juliussan, E., Horne, R. N.  
2013; 49
  - **Nanoparticle and Microparticle Flow in Porous and Fractured Media-An Experimental Study** *SPE Annual Technical Conference and Exhibition*  
Alaskar, M., Ames, M., Connor, S., Liu, C., Cui, Y., Li, K., Horne, R.  
SOC PETROLEUM ENG.2012: 1160-71
  - **An Improved Adjoint-Sensitivity Computation for Multiphase Flow Using Wavelets** *SPE Annual Technical Conference and Exhibition*  
Awotunde, A. A., Horne, R. N.  
SOC PETROLEUM ENG.2012: 402-17
  - **Interpreting Pressure and Flow-Rate Data From Permanent Downhole Gauges by Use of Data-Mining Approaches** *SPE Journal*  
Liu, Y., Horne, R. N.  
2012; 18 (1): 69-82
  - **Investigation of injection-induced seismicity using a coupled fluid flow and rate/state friction model** *GEOPHYSICS*  
McClure, M. W., Horne, R. N.  
2011; 76 (6): WC181-WC198
  - **Robust Well-Test Interpretation by Using Nonlinear Regression With Parameter and Data Transformations** *SPE JOURNAL*  
Dastan, A., Horne, R. N.  
2011; 16 (3): 698-712
  - **A Multiresolution Analysis of the Relationship Between Spatial Distribution of Reservoir Parameters and Time Distribution of Well-Test Data** *SPE RESERVOIR EVALUATION & ENGINEERING*  
Awotunde, A. A., Horne, R. N.  
2011; 14 (3): 345-356
  - **Simultaneous Interpretation of Pressure, Temperature, and Flow-Rate Data Using Bayesian Inversion Methods** *SPE RESERVOIR EVALUATION & ENGINEERING*  
Duru, O. O., Horne, R. N.  
2011; 14 (2): 225-238
  - **A wavelet approach to adjoint state sensitivity computation for steady state differential equations** *WATER RESOURCES RESEARCH*  
Awotunde, A. A., Horne, R. N.  
2011; 47

- **Paul Kruger (1925-2010) Obituary** *GEOTHERMICS*  
Horne, R.  
2011; 40 (1): 87-87
- **Modeling Reservoir Temperature Transients and Reservoir-Parameter Estimation Constrained to the Model** *2008 SPE Annual Technical Conference and Exhibition*  
Duru, O. O., Horne, R. N.  
SOC PETROLEUM ENG.2010: 873-83
- **Experimental Study of Water Injection into Geothermal Systems** *TRANSPORT IN POROUS MEDIA*  
Li, K., Nassori, H., Horne, R. N.  
2010; 85 (2): 593-604
- **Significant Improvement in the Accuracy of Pressure-Transient Analysis Using Total Least Squares** *SPE RESERVOIR EVALUATION & ENGINEERING*  
Dastan, A., Horne, R. N.  
2010; 13 (4): 614-625
- **Method to Evaluate the Potential of Water Injection in Naturally Fractured Reservoirs** *TRANSPORT IN POROUS MEDIA*  
Li, K., Horne, R. N.  
2010; 83 (3): 699-709
- **Modeling Study of Single-Well EGS Configurations** *World Geothermal Congress*  
Wang, Z., McClure and M. W., Horne, R. N.  
2010
- **Characterization of Fractures in Geothermal Reservoirs** *World Geothermal Congress*  
Juliusson, E., Horne, R. N.  
2010
- **Application of Nonparametric Regression on Well Histories of Geothermal Production Fields in the Philippines** *World Geothermal Congress*  
Villacorte, J. D., Malate, R. M., Horne, R. N.  
2010
- **Experimental Study and Fractal Analysis of Heterogeneity in Naturally Fractured Rocks** *TRANSPORT IN POROUS MEDIA*  
Li, K., Horne, R. N.  
2009; 78 (2): 217-231
- **Applicability of the ACE algorithm for multiple regression in hydrogeology** *COMPUTATIONAL GEOSCIENCES*  
Szucs, P., Horne, R. N.  
2009; 13 (1): 123-134
- **Investigating Electrical-Impedance Tomography as a Technique for Real-Time Saturation Monitoring** *2006 SPE Annual Technical Conference and Exhibition*  
Stacey, R. W., Li, K., Horne, R. N.  
SOC PETROLEUM ENG.2009: 135-43
- **Proactive Optimization of Oil Recovery in Multilateral Wells Using Real Time Production Data** *SPE Annual Technical Conference and Exhibition*  
Alghareeb, Z. M., Horne, R. N., Yuen, B. B., Shenawi, S. H.  
2009: 4-7
- **Significant Improvement in the Accuracy of Pressure Transient Analysis Using Total Least Squares** *SPE Annual Technical Conference and Exhibition*  
Dastan, A., Horne, R. N.  
2009
- **Data Processing and Interpretation of Well Test Data as a Nonparametric Regression Problem** *SPE Western Regional Meeting*  
Nomura, M., Horne, R. N.  
2009
- **Effects of Fracture and Frequency on Resistivity in Different Rocks** *SPE Annual Technical Conference and Exhibition*  
Sandler, J., Li, Y., Horne, R. N., Li, K.



2009

- **Estimation of wettability in gas-liquid-rock systems** *GEOTHERMICS*  
Li, K., Horne, R. N.  
2008; 37 (4): 429-443
- **Numerical simulation without using experimental data of relative permeability** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*  
Li, K., Horne, R. N.  
2008; 61 (2-4): 67-74
- **Modeling of oil production by gravity drainage** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*  
Li, K., Horne, R. N.  
2008; 60 (3-4): 161-169
- **Improved Recovery in Gas-Condensate Reservoirs Considering Compositional Variations** *SPE Annual Technical Conference and Exhibition*  
Shi, C., Horne, R. N.  
2008
- **Analysis of Permanent Downhole Gauge Data by Cointerpretation of Simultaneous Pressure and Flow Rate Signals** *SPE Annual Technical Conference and Exhibition*  
Ahn, S., Horne, R. N.  
2008
- **Modeling Reservoir Temperature Transients and Matching to Permanent Downhole Gauge Data for Reservoir Parameter Estimation** *SPE Annual Technical Conference and Exhibition*  
Duru, O. O., Horne, R. N.  
2008
- **Systematic study of steam-water capillary pressure** *GEOTHERMICS*  
Li, K., Horne, R. N.  
2007; 36 (6): 558-574
- **Experimental study of phase-transformation effects on relative permeabilities in fractures** *SPE RESERVOIR EVALUATION & ENGINEERING*  
Chen, C., Li, K., Horne, R. N.  
2007; 10 (5): 514-526
- **Comparison and verification of production prediction models** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*  
Li, K., Horne, R. N.  
2007; 55 (3-4): 213-220
- **Analyzing Simultaneous Rate and Pressure Data From Permanent Downhole Gauges** *SPE Annual Technical Conference and Exhibition*  
Rai, H., Horne, R. N.  
2007
- **Listening to the Reservoir-Interpreting Data From Permanent Downhole Gauges** *Journal of Petroleum Technology*  
Horne, R. N.  
2007: 98-106
- **Fractal Modeling of Capillary Pressure Curves for The Geysers Rocks** *Geothermics*  
Li, K., Horne, R. N.  
2007; 35: 198-207
- **Influence of initial water saturation on recovery by spontaneous imbibition in gas/water/rock systems and the calculation of relative permeability** *SPE RESERVOIR EVALUATION & ENGINEERING*  
Li, K., Chow, K., Horne, R. N.  
2006; 9 (4): 295-301
- **Comparison of methods to calculate relative permeability from capillary pressure in consolidated water-wet porous media** *WATER RESOURCES RESEARCH*  
Li, K., Horne, R. N.  
2006; 42 (6)

- **Generating multiple history-matched reservoir-model realizations using wavelets** *2004 SPE Annual Technical Conference and Exhibition*  
Sahni, I., Horne, R. N.  
SOC PETROLEUM ENG.2006: 217–26
- **Generalized scaling approach for spontaneous imbibition: An analytical model** *2002 SPE Annual Technical Conference and Exhibition*  
Li, K., Horne, R. N.  
SOC PETROLEUM ENG.2006: 251–58
- **Optimization of well placement under time-dependent uncertainty** *2004 SPE Annual Technical Conference and Exhibition*  
Ozdogan, U., Horne, R. N.  
SOC PETROLEUM ENG.2006: 135–45
- **Two-phase flow in rough-walled fractures: Experiments and a flow structure model** *WATER RESOURCES RESEARCH*  
Chen, C. Y., Horne, R. N.  
2006; 42 (3)
- **Stochastic History Matching and Data Integration for Complex Reservoirs Using a Wavelet-Based Algorithm** *SPE Annual Technical Conference and Exhibition*  
Sahni, I., Horne, R. N.  
2006
- **An Analytical Model for Production Decline-Curve Analysis in Naturally Fractured Reservoirs** *SPE Reservoir Evaluation & Engineering*  
Li, K., Horne, R. N.  
2006; 8: 197-204
- **Optimizing the Productivity of Gas-Condensate Wells** *SPE Annual Technical Conference and Exhibition*  
Shi, C. , C. M., Li, K., Horne, R. N.  
2006
- **Electrical Impedance Tomography (EIT) Technique for Real-Time Saturation Monitoring** *SPE Annual Technical Conference and Exhibition*  
Stacey, R. W., M., C., Li, K., Horne, R. N.  
2006
- **Computation of capillary pressure and global mobility from spontaneous water imbibition into oil-saturated rock** *2003 SPE Asia Pacific Oil and Gas Conference and Exhibition*  
Li, K. W., Horne, R. N.  
SOC PETROLEUM ENG.2005: 458–65
- **Inertia effects in high-rate flow through heterogeneous porous media** *TRANSPORT IN POROUS MEDIA*  
Fourar, M., Lenormand, R., Karimi-Fard, M., Horne, R.  
2005; 60 (3): 353-370
- **Multiresolution wavelet analysis for improved reservoir description** *2003 SPE Annual Technical Conference and Exhibition*  
Sahni, I., Horne, R. N.  
SOC PETROLEUM ENG.2005: 53–69
- **Extracting Capillary Pressure from Spontaneous Imbibition Data in Oil-Water-Rock Systems** *SPE Journal*  
Li, K., Horne, R. N.  
2005; 10 (4)
- **Experimental study of gas slippage in two-phase flow** *2001 SPE Western Regional Meeting*  
Li, K. W., Horne, R. N.  
SOC PETROLEUM ENG.2004: 409–15
- **An analytical scaling method for spontaneous imbibition in gas/water/rock systems** *2002 SPE/DOE Improved Oil Recovery Symposium*  
Li, K. W., Horne, R. N.  
SOC PETROLEUM ENG.2004: 322–29
- **Experimental study of liquid-gas flow structure effects on relative permeabilities in a fracture** *WATER RESOURCES RESEARCH*  
Chen, C. Y., Horne, R. N., Fourar, M.

2004; 40 (8)

- **Steam-water and air-water capillary pressures: Measurement and comparison** *52nd Annual Technical Meeting of the Petroleum-Society*  
Li, K., Horne, R. N.  
CANADIAN INST MINING METALLURGY PETROLEUM.2004: 24–30
- **Reservoir description and dynamics** *JOURNAL OF PETROLEUM TECHNOLOGY*  
Horne, R., Raghavan, R.  
2004; 56 (3): 32-33
- **Uncertainty assessment of well-placement optimization** *SPE RESERVOIR EVALUATION & ENGINEERING*  
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- **Extracting Capillary Pressure from Spontaneous Imbibition Data in Oil-Water-Rock Systems** *SPE Asia-Pacific Oil & Gas Conference and Exhibition*  
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- **A Decline Curve Analysis Model Based on Fluid Flow Mechanisms** *SPE/AAPG Western Regional Meeting*  
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- **Prediction of Oil Production by Gravity Drainage** *SPE Annual Technical Conference and Exhibition*  
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## PRESENTATIONS

- Keynote Speaker, Iceland Geothermal Conference, 2013 - Iceland Geothermal Conference (2013)
- Keynote Speaker, World Future Energy Summit, 2013 (2013)
- Keynote Speaker, GeoEnergi Norway, 2013 (2013)
- Keynote Speaker, Der Geothermiekongress, 2013 (2013)
- Invited Speaker, Lockheed, 2012 (2012)
- Distinguished Lecture, TAMU Qatar, 2012
- Keynote Speaker, Australian Geothermal Energy Conference, 2011
- Keynote Speaker, GeoTherm Conference, Offenburg, Germany, 2011
- Keynote Speaker, New Zealand Geothermal Workshop, 2011



- Keynote Speaker, Middle East Oil Conference, Bahrain, 2011
- Invited Speaker, Idaho Society of Professional Engineers, 2011
- Invited Speaker, Fermilab, 2011
- Invited Speaker, Hewlett-Packard, 2011
- Invited Speaker, UC Davis, 2011
- Keynote Speaker, New Zealand Geothermal Conference, 2008
- Invited Speaker, China University of Petroleum, Qingdao, 2008
- Invited Speaker, Daqing Petroleum Co., China, 2008
- Invited Speaker, National Geothermal Association of the Phillipines, Manila, 2007
- Invited Speaker, Chulalongkorn University, Bangkok, Thailand, 2007
- Invited Speaker, China University of Petroleum, Qingdao, 2007
- Invited Speaker, Peking University, 2007
- Invited Speaker, China University of Petroleum, Dongying, 2007
- Invited Speaker, Petroleum Society of CIM, Canada, 2007
- Invited Speaker, International R&D Forum on Oil, Gas and Petrochemicals, Malaysia, 2006
- Invited Speaker, Xerox PARC Forum, 2006
- Invited Speaker, SPE Golden Gate Section, Society of Petroleum Engineers, 2006
- Invited Speaker, Kyoto University, 2005
- Invited Speaker, Osaka University, 2005
- Invited Speaker, Chulalongkorn University, Bangkok, Thailand, 2003
- Invited Speaker, Petroleum Business Institute, Moscow, Russia, 2003
- Invited Speaker, Kyushu University, Fukuoka, Japan, 2003
- Invited Speaker, BP Institute, Cambridge, England, 2001
- Invited Speaker, University of Tokyo, Japan, 2001
- Invited Speaker, Memorial University of Newfoundland, Canada, 2001
- Invited Speaker, University of Texas, Austin, 2001
- Invited Speaker, Texas A&M University, February 2015 (2015 - 2015)
- Keynote Speaker, 2015 International Conference on Alternative Energy in Developing Countries and Emerging Economies (May 2015 - May 2015)
- Invited Speaker, Canadian Institute of Mining, Petroleum Division, Calgary, 1998
- Keynote Speaker, Society of Petroleum Engineers Asia-Pacific Forum, Nusa Dua, Indonesia, 1998
- Invited Speaker, Schlumberger Conference on Permanent Downhole Gauges, Paris, 1997
- Keynote Speaker: International Petroleum Technology Conference, Kuala Lumpur, 2014 (12/10/2014 - 12/12/2014)
- Keynote Speaker, 2014 Innovation for Cool Earth Forum (ICEF) (2014 - 2014)
- Keynote Speaker, Grand Renewable Energy Conference, Tokyo, 2014 (2014)
- Keynote Speaker, International Conference on Integrated Petroleum Engineering and Geosciences 2016 (ICIPEG2016) - UTP Malaysia (August 16, 2016 - August 16, 2016)
- Distinguished Lecture, University of Houston, 2018 - University of Houston (2018)