

Dr. Kegang Ling
Assistant Professor in Petroleum Engineering
University of North Dakota

Department of Petroleum Engineering
Upson II Hall, Room 366, 243 Centennial Drive, Stop 8154,
Grand Forks, ND 58202 USA

kegang.ling@engr.und.edu

Education

Dec 2010 Ph.D. in Petroleum Engineering, Texas A&M University.

Dec 2006 M.Sc. in Petroleum Engineering, University of Louisiana at Lafayette.

Jul 1995 B.Sc. in Geology, China University of Petroleum at Beijing.

Professional Experience

Dec 2011 – present, Assistant Professor in Petroleum Engineering, **University of North Dakota**

- Develop coursework materials and teach undergraduate petroleum engineering courses
- Carry out research and supervise undergraduate and graduate students
- Faculty advisor for student chapter of the Society of Petroleum Engineers

Sep 2009-Nov 2011 Petroleum Engineer in **Ryder Scott Company** in Houston, TX

- Utilized various reserves evaluation strategies to book reserves and submitted the corresponding reports to U.S. Securities and Exchange Commission (SEC) for oil companies and National Mineral Department including China National Offshore Oil Company (CNOOC), Mitsui, Ministry of Energy of Trinidad and Tobago, BP, and ENI etc. Geographical area of experience included China, Australia, Indonesia, Trinidad & Tobago, Nigeria, and New Zealand.

Aug 1995-Dec 2004 Petroleum Engineer in **China National Offshore Oil Corporation**

- Reserves and resources evaluation
- Reservoir simulation
- Geological and geophysical analysis for exploration and production

Professional and Academic Roles

Society of Petroleum Engineers (SPE): Member (2005 to present)

Faculty advisor of University of North Dakota SPE student chapter, 2012-2013

Honors, Awards and Scholarships

Research Assistantship, Texas A&M University

Research Assistantship, University of Louisiana at Lafayette

Institute Scholarships, China University of Petroleum at Beijing

Grants and Contracts

Source of Funds	Title of Project	Start Date	Total Amount	PI/Co-PI/Students
North Dakota Transmission Authority	Williston Basin Oil and Gas Related Electric Load Growth Forecast	Apr 2012 - Sep 2012	\$61,000	Co-PI
DOE	Geomechanical Study of Bakken Formation for Improved Oil Recovery	Jul 2012 - Dec 2013	\$200,000	PI

Courses Taught and Teaching

Undergraduate courses at University of North Dakota:

- PTRE 311 Petroleum Fluids Properties (Spring 2012)
- PTRE 421 Petroleum Production Engineering (Fall 2012, 2013)
- PTRE 431 Petroleum Reservoir Engineering (Fall 2012, 2013)
- PTRE 461 Natural Gas Engineering (Spring 2013, 2014, 2015)
- PTRE 441 Petroleum Project Management (Spring 2013, 2014, 2015)
- PTRE 484 Senior Design I (Fall 2012, Spring 2014) (co-taught with PtrE faculty)
- PTRE 485 Senior Design II (Spring 2013) (co-taught with PtrE faculty)
- PTRE 361 Petroleum Engineering Laboratory I (Spring 2013) (co-taught with PtrE faculty)
- PTRE 462 Petroleum Engineering Laboratory II (Spring 2013) (co-taught with PtrE faculty)

Selected Technical publications

1. P. Pei, S. Korom, **K. Ling**, A. Gil, J. He "Thermodynamic Impact of Aquifer Permeability on the Performance of a Compressed Air Energy Storage Plant", *Energy Conversion & Management*, 2015,
2. X. Wu, B. Xu, **K. Ling**, "A Semi-Analytical Solution to the Transient Temperature Behavior along the Vertical Well after Well Shut-in", *Journal of Petroleum Science and Engineering*, 2015
3. G. Han, **K. Ling**, H. Wu, F. Gao, F. Zhu,, M. Zhang, "An experimental study of coal-fines migration in Coalbed-methane production wells", *Journal of Natural Gas Science & Engineering*. 2015
4. P. Pei, **K. Ling**, J. He, Z. Liu, "Shale gas reservoir treatment by a CO₂-based technology", *Journal of Natural Gas Science & Engineering*. March 2015,
5. **K. Ling**, H. Zhang, Z. Shen, A. Ghalambor, G. Han, J. He, P. Pei, "A New Approach to Estimate Invasion Radius of Mud Filtrate to Evaluate Formation Damage Caused by Overbalanced Drilling", paper SPE 168184, *SPE Drilling & Completion*, 2015.
6. **K. Ling**, C. Xu, G. Han, J. He, P. Pei, "A New Method for Leak Detection in Gas Pipelines", *SPE Oil and Gas Facilities*. 2015
7. P. Pei, Z. Zeng, **K. Ling**, "Finite Element Study of the Paleostress and Natural

- Fracture Development in the Bakken Formation, Nesson Anticline Area, North Dakota”, *Journal of Petroleum Science Research*. 2014
8. P. Pei, S. Korom, **K. Ling**, J. Nasah, "Cost Comparison of Syngas Production from Natural Gas Conversion and Underground Coal Gasification", accepted to be published in *Mitigation and Adaptation Strategies for Global Change*. 2014
 9. Z. Shen, F. Beck, **K. Ling**, "The mechanism of Wellbore Weakening in Worn Casing-Cement-Formation System", *Journal of Petroleum Engineering*. 2014
 10. **K. Ling**, J. He, P. Pei, "Gas-Oil-Water Production and Water-Gas Injection Forecasts in Williston Basin", *Journal of Petroleum Science Research*. 2014
 11. **K. Ling**, X. Wu, H. Zhang, J. He, "Improved Gas Resource Calculation Using Modified Material Balance for Overpressure Gas Reservoirs", *Journal of Natural Gas Science & Engineering*. Vol. 17, March 2014, Pages 71–81
 12. G. Han, H. Zhang, **K. Ling**, R. Zhang, "Study on Undulating Well in Anisotropic Reservoir by Semi-Analytical Method", *Special Topic&Review in Porous Media*. 2015
 13. **K. Ling**, J. He, P. Pei, G. Han, H. Zhang, "Determining the Permeability of Tight Rock with Gas Transient Flow", *Journal of Natural Gas Science & Engineering*. Vol.15, November 2013
 14. J. He, P. Pei, **K. Ling**, Z. Zeng, H. Liu, "Quantification of Rock Porosity Change before and after Freezing", *Journal of Petroleum Science Research*. July 2013
 15. G. Han, H. Zhang, **K. Ling**, D. Wu, G. Zhang, " A Transient Two-phase Fluid and Heat Flow Model for Gas-lift Assisted Waxy Crude Wells with Periodical Electric Heating ", paper SPE 165415, *Journal of Canadian Petroleum Technology*, 2014
 16. **K. Ling**, J. He, J. Ge, Z. Shen, P. Pei, "A Rigorous Method to Calculate the Rising Speed of Gas Kick", *Journal of Petroleum Exploration and Production Technology*, 2014
 17. **K. Ling**, X. Wu, B. Guo, J. He, "New Method to Estimate the Surface Separators Optimum Operating Pressures", paper SPE 163111, *SPE Oil and Gas Facilities*, June 2013
 18. X. Wu, **K. Ling**, D. Liu, "Deepwater Reservoir Characterization Using Tidal Signal Extracted from Permanent Downhole Pressure Gauge", *SPE Reservoir Evaluation & Engineering*, Vol. 16, No. 4, November 2013
 19. **K. Ling**, B. Guo, H. Zhang, "Numerical Simulation of Transient Flow in Gas Pipeline and Tank", SPE 151546-PA, *SPE Oil and Gas Facilities* December 2012
 20. J. Li, B. Guo, **K. Ling**, "Flow Diverting for Reducing Wellbore Erosion in Gas-Drilling Shale Gas Wells", *ASME Journal of Energy Resources Technology*. 135(3), 031501 (May 24, 2013)
 21. G. Han, **K. Ling**, H. Zhang, S. H. Khor, R. K. Thakur, "Simulation of Multiphase Fluid-Hammer Effects during Well Shut-In and Opening", SPE 160049-PA, *SPE Oil and Gas Facilities*, Vol. 2, No. 6, December 16, 2013,
 22. B. Guo, J. Zhou, **K. Ling**, A. Ghalambor, "A Rigorous Composite-Inflow-Performance Relationship Model for Multilateral Wells", *SPE Prod & Oper* 23 (2): 241-248. SPE 100923-PA

Professional Service:

Associate editor of Journal of Unconventional Oil and Gas Resources.

Technical editor of Journal of Petroleum Exploration and Production Technology.
Technical editor of Journal of Natural Gas Science and Engineering
Technical editor of Journal of Petroleum Science Research.