

# Yi Wang

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Seeking a full-time position as Petroleum Engineer/Petrophysicist  
Legally authorized to work, may require sponsorship in future

## EDUCATION

2013-2016 (anticipate), Pennsylvania State University, University Park, PA

**Doctor of Philosophy, Energy & Mineral Engineering**

GPA: 3.54/4.00

Anticipate graduation date: December, 2016

2010-2012, Pennsylvania State University, University Park, PA

**Master of Science, Petroleum & Natural Gas Engineering**

Graduation date: December, 2012

2006-2010, China University of Petroleum, Beijing, China

**Bachelor of Science, Petroleum & Natural Gas Engineering**

Graduation time: July, 2010

## RESEARCH EXPERIENCE

### **Analytical Modeling of Apparent Permeability in Unconventional Reservoirs (NSF Project)**

**The Pennsylvania State University (2013-present)**

- Designed and conducted experiments of gas adsorption, diffusion and permeability measurement on Marcellus shale and Pennsylvania anthracite core samples
- Analyzed laboratory data of adsorption and diffusion effect and coupled them in coal and shale matrix flow
- Developed an analytical model of apparent permeability which is more representative for unconventional gas flow
- Applied this model in commercial reservoir simulators, and obtained better CBM and shale gas production prediction

Adviser: Dr. Shimin Liu and Dr. Derek Elsworth

### **Investigation of Microscale Pore Structure and permeability anisotropy of Coal and Shale Rocks Using Small Angle Neutron Scattering (SANS) Technique (NSF Project)**

**Oak Ridge National Laboratory (2014-2015)**

- Applied SANS on coal and shale pulverized samples with high pressure gases (CD<sub>4</sub>, CO<sub>2</sub> and Argon) to estimate the pore accessibility of shale and anthracite coal samples
- Captured the pore structure change and distribution change in horizontal and vertical direction
- Reduced and interpreted more than 200 scattering data profiles to reproduce pore structure and pore size distribution
- Compared the pore size data obtained with sorptive gas and non-sorptive gas injection, in order to see how low-pressure adsorption will affect the pore accessibility

Adviser: Dr. Yuri Melnichenko, Dr. Lilin He and Dr. Shimin Liu

### **Study of Borehole Stability of Marcellus Shale Wells in Longwall Mining Areas (Range Resources Project)**

**The Pennsylvania State University (2011-2012)**

- Developed a finite element analysis (FEA) model to simulate the ground deformation and stresses condition in longwall mining
- Analyzed possible failure cause happening in Longwall mining drilling and completion process
- Built a casing design model to carry out the best casing strategy based on the FEA model

Adviser: Dr. Robert Watson, Dr. Jamal Rostami and Dr. John Yilin Wang

## PROFESSIONAL EXPERIENCE

### **Project Assistant Internship (June-July, 2014)**

Institute of Engineering Technology, CNPC, Xinjiang, China

- Studied and evaluated petrophysical properties of 5 Basalt rock samples obtained in the field near the Wind City in Xinjiang
- Participated in the hydraulic fracturing project and a 3-day onsite operation on Basalt formation
- Applied commercial software (Fracpro) to simulate and optimize the process of hydraulic fracturing

Director: Dr. Jingjun Pan

### **Sales Assistant Internship in Sales Department (June-July, 2012)**

Kunlun Lubricant Headquarters, **CNPC**, Beijing, China

- Learned the rudimentary knowledge of marketing skills
- Understood the development history and marketing strategies of the brand “Kunlun Lubricant”
- Conducted satisfaction survey among 7 industrial customers from January and wrote the report
- Participated the training program conducted by sales representatives of industrial oil in Shanxi Province

Director: Mr. Xian Wang

### **Drilling Engineer Internship (June-August, 2009)**

The 4th Drilling Company, **CNPC**, Daqing, China

- Monitored daily drilling and operations for 4 wells
- Gathered and Evaluated drilling data and drilling time curves for that 4 wells
- Maintained and updated drilling reports

Director: Dr. Zhongwei Huang

### **PUBLICATIONS**

**Yi Wang**, Shimin Liu and Derek Elsworth. 2015. Laboratory investigations of gas flow behaviors in tight anthracite and evaluation of different pulse-decay methods on permeability estimation. *International Journal of Coal Geology*. 10 pp.

**Yi Wang**, Robert Watson, Jamal Rostami, John Yilin Wang, Mark Limbruner and Zhong He. 2013. Study of borehole stability of Marcellus shale wells in longwall mining areas. *Journal of Petroleum Exploration and Production Technology*. 13 pp.

**Yi Wang** and Shimin Liu. 2015. Shale core apparent permeability characterization with CO<sub>2</sub> injection under stress-controlled condition. The 14<sup>th</sup> Annual Carbon Capture, Utilization & Storage Conference, Pittsburgh, Pennsylvania. 12pp.

Shimin Liu, **Yi Wang** and Satya Harpalani. 2016. Anisotropy characteristics of coal shrinkage/swelling and its impact on coal permeability evolution with CO<sub>2</sub> injection. *Greenhouse Gases: Science and Technology*. 18 pp.

Rui Zhang, Shimin Liu, Jitendra Bahadur, Derek Elsworth, Yuri Melnichenko, Lilin He and **Yi Wang**. 2015. Estimation and modeling of coal pore accessibility using small angle neutron scattering. *Fuel*. 9pp.

Shun Liang, Derek Elsworth, Xuehua Li, Xuehai Fu, Dong Yang, Qiangling Yao and **Yi Wang**. 2015. Dynamic impacts on the survivability of shale gas wells piercing longwall panels. *Journal of Natural Gas Science and Engineering*. 16pp.

Shimin Liu, Satya Harpalani and **Yi Wang**. 2013. Deformation characteristics of coal and its impact on permeability during CO<sub>2</sub> sequestration. *International Conference on Coal Science & Technology*. 13 pp.

### **ACADEMIC EXPERIENCE**

**Graduate Research Assistant, The Pennsylvania State University, Energy and Mineral Engineering (2014-2016)**

**Graduate Teaching Assistant, The Pennsylvania State University, Energy and Mineral Engineering (2013-2014)**

- Courses: Thermodynamics, Fluid Mechanics, Energy and the Environment (Fall, 2013)
- Labs: Environmental Systems Engineering Laboratory and Mineral Processing Laboratory (Spring, 2014)
- Duty : Homework and exam grader, lab operator and instructor

### **Technical Journal Reviewer (2012-present)**

- Reviewer of “Journal of Petroleum Exploration and Production Technology” (2012-2013), reviewed 12 journal publications
- Reviewer of “The Journal of Unconventional Oil and Gas Resources” (2015), reviewed 2 journal publications

### **HONORS AND AWARDS**

- SPE membership, 2010-present
- Vice President of Publicity Department in Student Union, China University of Petroleum, Beijing, 2007-2009
- Championship in Beijing Petroleum Science and Technology Innovation Competition, March, 2010