

# Tianhao Wu

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## Research Interests

- Physics of fluid flow in porous media at pore-scale and Darcy-scale
- Unconventional oil & gas development
- Digital rock (multi-scale characterization and simulation of fluid flow in tight rocks)
- Molecular dynamic simulation of nanoflow
- Permeability test of tight porous media

## Education

**2010 – 2016 Ph.D. in Mechanics (Energy and Resources Engineering)**

**College of Engineering, Peking University, Beijing**

Supervisor: Prof. Dongxiao Zhang

Dissertation: Investigation of gas transport mechanisms in the matrix of shale gas reservoir with numerical simulations and experiments.

**2006 – 2010 Bachelor of Engineering in Energy and Resources Engineering**

**College of Engineering, Peking University, Beijing**

Supervisor: Prof. Dongxiao Zhang

Dissertation: Approach for high-yield CBM block assessment

**2007 – 2010 Bachelor of Economics**

**National School of Development, Peking University, Beijing**

Double major

## Work Experience

2017.2 – present Postdoc Researcher, Reservoir Engineering Research Institute, Palo Alto

2016.7 – 2017.1 Researcher, College of Engineering, Peking University, Beijing

2010.9 – 2016.7 Research Assistant, College of Engineering, Peking University, Beijing

## Publications

- Wu, T., Li, X., Zhao, J., & Zhang, D. From imaging to simulation: Systematic investigation of pore structure and gas transport in organic-rich shale, under review.
- Wu, T., Li, X., Ma, S., Zhang, D., Lun Z., & Liu X. Differential pressure decay method for shale matrix permeability test, under review.
- Wu, T., & Zhang, D. Impact of Adsorption on Gas Transport in Nanopores. *Scientific Reports*, 6. 2016.

- Zhang, D., Yang, T., **Wu, T.**, Li, X., & Zhao, J. Recovery mechanisms and key issues in shale gas development. *Chinese Science Bulletin (in Chinese)*, 2016.
- Zhang D., Zhao J., **Wu, T.**, Tang, H., Xuan, Q., & Jiang, Z. Multiscale Approach to Mechanical Characterization of Shale, *6th Biot Conferences 2017*, Paris, France, accepted.
- **Wu, T.**, Jiang, Z., & Zhang, D. A Case Study of Fluid Transport in Shale Crushed Samples: Experiment and Interpretation, *2014 International Symposium of the Society of Core Analysts*, Avignon, France, 8-12 September 2014.
- **Wu, T.**, Zhao, J., Jiang, Z., & Zhang, D., How is terrestrial shale different from marine shale for gas production? A systematic comparative study, in preparation.

### **Academic Experience**

- Laboratory of Unconventional Oil & Gas Development, Peking Univ., *Executive Manager (PI: Prof. Dongxiao Zhang)*, 2013 – 2017.
- Flow Mechanisms for Shale/Tight Oil Production, National Natural Science Foundation of China, *Principle Participant*, 2016 – 2017.
- Multi-scale Characterization and Simulator Development of Shale Gas, National Science and Technology Major Project of China, *Principle Participant*, 2016 – 2017.
- Molecular Dynamic Simulation and Numerical Model for Gas Transport in Nanopores of Shale Matrix, SINOPEC Program, *Chief Research Fellow*, 2016.
- Flow Mechanisms, Simulation and Optimization for Shale Gas Production, National Natural Science Foundation of China, *Participant*, 2013 – 2016.
- Prediction of CBM Recovery and High-Yield Region Assessment in Ordos Basin, National Science and Technology Major Project of China, *Participant*, 2010.
- Geological Modeling and Numerical Simulation for CBM Reservoir of Hancheng District, National Science and Technology Major Project of China, *Participant*, 2010.

### **Professional & Social Associations**

2013 – present	Society of Core Analysts, Member
2010 – present	Society of Petroleum Engineers (SPE), Member
2011 – 2013	Society of Petroleum Engineers (SPE) Student Chapter of PKU, President
2008 – 2009	Student Union of College of Engineering, PKU, President

### **Awards & Honors**

- The 2<sup>nd</sup> National Petroleum Engineering Design Competition, China, Second Prize (2012)
- The 1<sup>st</sup> National Petroleum Engineering Design Competition, China, First Prize (2011)
- Excellent Social Work Prize (2011), Outstanding Graduate of PKU (2010, 2016)
- Outstanding Student Leader of Beijing (2009)
- Excellent Volunteer of Beijing Olympic Games & Paralympic Games (2008)