

Junwen Peng

Business address: Bureau of Economic Geology
The University of Texas at Austin
10100 Burnet Rd., Bldg 130, 3rd floor
Austin, TX 78713-8924

E-mail address: junwen@utexas.edu

ACADEMIC BACKGROUND

Jackson School of Geosciences, The University of Texas at Austin, Austin Sep.2016–Present

- **Ph.D candidate** in *Geology* (GPA: 3.77/4.0)

College of Geosciences, China University of Petroleum (CUP), Beijing Sep.2013–Jun.2016

- **M.Eng** in *Geological Resources and Geological Engineering (Petroleum Geology)* (GPA: 91/100, Rank: 1/30)

Faculty of Earth Resources, China University of Geosciences (CUG), Wuhan Sep.2009–Jun.2013

- **B.Eng** in *Resource Exploration Engineering (Petroleum Geology)* (GPA: 90+, Rank: 1/100)

RESEARCH INTERESTS

Deepwater fine-grained depositional systems; Shale petrology; Unconventional resources

PUBLICATIONS

[1] Peng, J.W.*, Fu, Q., Larson, T., and Janson X. in press. Trace-elemental and petrographic constraints on the severity of hydrographic restriction in the silled Midland Basin during the Late Paleozoic Ice Age. *GSA Bulletin*. Doi: 10.1130/B35336.1.

[2] Peng, J.W.*, Milliken, K., and Fu, Q. in press. Quartz types in the Upper Pennsylvanian organic-rich Cline Shale (Wolfcamp D), Midland Basin, Texas: Implications for silica diagenesis, porosity evolution, and rock mechanical properties. *Sedimentology*. Doi: 10.1111/sed.12694.

[3] Peng, J.W.*, Milliken, K., Fu, Q., and Janson, X. in press. Grain assemblages and diagenesis in organic-rich mudrocks, Upper Pennsylvanian Cline Shale (Wolfcamp D), Midland Basin, Texas. *AAPG Bulletin*. Doi: 10.1306/03022018240.

[4] Pang, X.Q.*, Peng, J.W.*, Jiang, Z.X., Yang, H.J., Wang, P.W., Jiang, F.J., and Wang, K. 2019. Hydrocarbon accumulation processes and mechanisms in Lower Jurassic tight sandstone reservoirs in the Kuqa subbasin, Tarim Basin, northwest China: A case study of the Dibei tight gas field. *AAPG Bulletin*, 103, 769–796. Doi: 10.1306/09181816529.

[5] Peng, J.W., Pang, X.Q.*, Shi, H.S., Peng, H.J., and Xiao S. 2018. Hydrocarbon generation potential of Upper Eocene Enping Formation mudstones in the Huilu area, northern Pearl River Mouth Basin, South China Sea. *AAPG Bulletin*, 102: 1323–1342. Doi: 10.1306/0926171602417005.

[6] Peng, J.W., Pang, X.Q.*, Peng, H.J., Ma, X.X., Shi, H.S., Zhao, Z.F., Xiao, S., and Zhu J.Z. 2017. Geochemistry, origin, and accumulation of petroleum in the Eocene Wenchang Formation reservoirs in Pearl River Mouth Basin, South China Sea: A case study of HZ25-7 oil field. *Marine and Petroleum Geology*, 80: 154–170. Doi: 10.1016/j.marpetgeo.2016.08.007.

[7] Peng, J.W., Pang, X.Q.*, Shi, H.S., Peng, H.J., Xiao, S., Yu Q.H., and Wu, L.Y. 2016. Hydrocarbon generation and expulsion characteristics of Eocene source rocks in the Huilu area, northern Pearl River Mouth basin, South China Sea: Implications for tight oil potential. *Marine and Petroleum Geology*, 72: 463–487. Doi: 10.1016/j.marpetgeo.2016.02.006.

[8] Peng, J.W., Pang, X.Q.*, Peng, H.J., Song S., Xiao, S., Li, Q.W., Wu, L.Y., Chen, D., and Hu T., 2016. Secondary

Migration of Hydrocarbons in the Zhujiang Formation in the Huixi Half-graben, Pearl River Mouth Basin, South China Sea. Canadian Journal of Earth Sciences, 53: 189–201. Doi: 10.1139/cjes-2015-0076.

[9] Peng, J.W., Pang, X.Q.*, Shi, H.S., Li, H., Xiao, S., Wang, Z., and Pang, X., 2015. A new method based on hydrocarbon migration threshold and combined reservoir controlling function for quantitatively predicting favorable hydrocarbon exploration zone: a case study of the lower Member of Zhujiang Formation in Zhu 1 depression. Acta Petrolei Sinica, S2: 156–168. Doi: 10.7623/syxb2015S2014.

Note: “*” suggest corresponding author.

CONFERENCE ABSTRACT

[1] Peng, J.W., Pang, X.Q., Yang, X., Liu, M., Jiang, H. and Xiao, S. Genetic Relation Between Volcanic Activity and High-Quality Source Rocks of the Wenchang Formation in the Zhu 1 Depression: New Ideas on Source-Rock Evaluation in the Pearl River Mouth Basin of the South China Sea. In 2015 AAPG Annual Convention & Exhibition, Denver, USA.

RESEARCH PROJECTS

Heterogeneity characterization and genetic mechanism of deepwater fine-grained sedimentary rocks during icehouse period: a case study from Cline Shale in the Midland Basin, West Texas Sep.2016–present
Team Member, STARR (State of Texas Advanced Oil and Gas Resource Recovery), Advisor: Dr. Qilong Fu and Xavier Janson, Committee member: Dr. William Fisher, Kitty Milliken, Ronald Steel, and Timothy Shanahan.

Funded by STARR and GSA (Geological Society of America) Research Grants

- Investigate the basinal and extrabasinal controlling factors and the associated mechanisms that create heterogeneities in mudrock systems;
- Unravel the accumulation process of organic matter (OM) and delineate the favorable OM accumulation unit and high quality reservoir interval;
- Establish the depositional model of deepwater Cline Shale.

The Forming Rule and Prospecting Direction of Large Oil and Gas Fields in the Pearl River Mouth Basin, South China Sea Sep. 2013–Jun.2016

Team Member, State Key Lab. of Petroleum Resources and Prospecting, Advisor: Prof. Xiongqi Pang

Funded by the National Science and Technology Major Project during the 12th Five-year Plan Period (NO.2011ZX05023), Cooperated with China National Offshore Oil Corporation (CNOOC)

- Investigated the hydrocarbon generation and expulsion characteristics of Eocene source rocks as well as the hydrocarbon resource potentials based on the mass balance principle by using geological and geochemical data and a modified conceptual model;
- Investigated the process and mechanisms of secondary hydrocarbon migration in the Zhu 1 Depression, Pearl River Mouth Basin on basis of the geological analysis of the strata and study of the porosity and permeability of the reservoir rocks, fluid potential, oil properties, and geochemistry of oil-source correlation;
- Concluded four key factors, including source rocks, favorable reservoir, cap rocks, and low potential area, for hydrocarbon accumulation in the Neogene reservoir and favorable hydrocarbon accumulation zones in the Pearl River Mouth Basin, South China Sea.

The Mechanism and Characteristics of Hydrocarbon Accumulation in the Tight Sandstone Reservoir in the HZ25-7 Area, South China Sea Sep.2013–Nov.2014

Team Member, State Key Lab. of Petroleum Resources and Prospecting, Advisor: Prof. Xiongqi Pang

Funded by China National Offshore Oil Corporation (CNOOC)

- Investigated the relationship between the porosity and the burial depth of reservoirs and how the effective reservoirs affected by porosity changes;

- Used sandstones with different particle sizes exhibiting good sorting to simulate the migration and accumulation of hydrocarbon in tight sand reservoir;
- Established the reservoir index (RI), potential index (PI), and their coupling index (RPI) to quantitatively evaluate the effectiveness of a reservoir and concluded that the coupling index (RPI) appears to control the hydrocarbon accumulation and distribution in the Eocene tight sand reservoirs: when RPI < 0.5, hydrocarbons could not accumulate; when it is > 0.5, hydrocarbons may accumulate.

RESEARCH FUNDING

- STARR (State of Texas Advanced Oil and Gas Resource Recovery) program (Sep. 2016–Jun. 2021)
- GSA (Geological Society of America) Research Grants (Nov. 2017–Jun. 2020; \$1560)

PARTICIPATIONS in PROFESSIONAL SOCIETIES

American Association of Petroleum Geologists (AAPG); Geological Society of America (GSA)

AWARDS & HONORS

<i>Outstanding Contribution in Reviewing</i> of Marine and Petroleum Geology	Jun.2017
<i>Li, Siguang Outstanding Student Award</i> , Ministry of Science and Technology Division of PR China	Oct.2016
<i>Excellent Graduate</i> of China University of Petroleum (Top 1%)	Jun.2016
<i>CNPC Excellent Student Scholarship</i> (Top 1%), CNPC	Nov.2015
<i>Excellent Graduate</i> of China University of Geosciences (Top 1%)	Jun.2013
<i>National Scholarship of China</i> (Top 1%), Ministry of Education of PR China	Nov.2012
<i>SINOPEC Excellent Student Scholarship</i> (Top 1%), SINOPEC	Nov.2011
<i>Excellent Intern</i> in Field Geological Skills Practice (Top 10%), China University of Geosciences	Aug. 2011