

参与

2017-2018: 长宁-威远三维地震区页岩储层地应力区域建模, 中国石油西南油气田分公司, 研究骨干

2016-2017: 深水水合物地层钻采过程井筒完整性分析与对策, 中国石油集团海洋工程有限公司, 参与

2015-2019: 页岩非线性工程地质力学特征与预测理论(51490651), 国家自然科学基金重大项目课题, 参与

2015-2016: 风城油砂微压裂扩容规律及评价技术研究, 中国石油新疆油田分公司, 研究骨干

教学经历

2021: 研究生课程, 《现代油气综合勘探技术与方法》, 参与

2021: 本科生课程, 资源勘查工程大三本科生生产实习, 参与

已发表学术论文

- [1] **Yanfang Gao**^{*}, Zhanli Ren, Mian Chen, Hailong Jiang, Shuaiwei Ding. Coupled geomechanical-thermal simulation for oil sand reservoirs with shale barriers under hot water injection in vertical well-assisted SAGD wells. *Journal of Petroleum Science and Engineering*, 2022, 208(D): 109644. (SCI, TOP)
- [2] 庞惠文^{*}, 金衍, **高彦芳**, 王琪琪. 风城油田齐古组油砂细观结构和渗流特征[J]. *新疆石油地质*, 2021, 42(04): 487-494. (中文核心)
- [3] **高彦芳**^{*}, 王晓阳, 任战利, 陈勉, 姜海龙. 克拉玛依陆相油砂注水过程中的剪胀诱导渗透率模型研究[J]. *石油钻采工艺*, 2021, 43(02): 244-249. (中文核心)
- [4] Qixing Zhang, Bin Hou^{*}, Botao Lin, Xing Liu, **Yanfang Gao**. Integration of discrete fracture reconstruction and dual porosity/dual permeability models for gas production analysis in a deformable fractured shale reservoir. *Journal of Natural Gas Science and Engineering*, 2021, 93: 104028. (SCI)
- [5] **Yanfang Gao**^{*}, Mian Chen, Hailong Jiang. Influence of unconnected pores on effective stress in porous geomaterials: Theory and case study in unconventional oil and gas reservoirs. *Journal of Natural Gas Science and Engineering*, 2021, 88: 103787. (SCI)
- [6] **Yanfang Gao**^{*}, Mian Chen. Influence of temperature-viscosity behaviors of Karamay oil sand bitumen on the geomechanics in the SAGD process. *Journal of Petroleum Exploration and Production Technology*, 2021, 11(2): 747-767. (SCI)
- [7] **Yanfang Gao**, Mian Chen^{*}. Evaluation of thermal stimulation in hydrate reservoirs under hot-water cyclic injection. *Arabian Journal of Geosciences*, 2020, 13: 449. (SCI)
- [8] **Yanfang Gao**, Mian Chen^{*}. Numerical modeling on thermoelastoplastic responses of Karamay oil sand reservoir upon steam circulation considering phase change of bitumen. *Journal of Petroleum Science and*

Engineering, 2020, 187: 106745. (SCI, TOP)

- [9] **Yanfang Gao**, Mian Chen*, Huiwen Pang. Experimental investigations on elastoplastic deformation and permeability evolution of terrestrial Karamay oil sands at high temperatures and pressures. Journal of Petroleum Science and Engineering, 2020, 190: 107124. (SCI, TOP)
- [10] Gang Chen, Mian Chen*, Guobin Hong, Yunhu Lu, Bo Zhou, **Yanfang Gao**. A new method of lithology classification based on convolutional neural network algorithm by utilizing drilling string vibration data. Energies, 2020, 13(4): 888. (SCI)
- [11] **Yanfang Gao**, Mian Chen*, Botao Lin, Yan Jin. An analytical model of hydraulic dilation area for Karamay oil sand reservoir under water injection in SAGD wells. Journal of Petroleum Science and Engineering, 2019, 179: 1090-1101. (SCI, TOP)
- [12] **Yanfang Gao**, Mian Chen*, Botao Lin, Yan Jin. Modeling of reservoir temperature upon preheating in SAGD wells considering phase change of bitumen. International Journal of Heat and Mass transfer, 2019, 144: 118650. (SCI, TOP)
- [13] **Yanfang Gao**, Huiwen Pang, Yan Jin*, Mian Chen. Evaluation of shear dilation capability/potential and permeability changes in Karamay oil sands under water injection. Geofluids, 2019, 7245081. (SCI)
- [14] Huiwen Pang, Yan Jin*, **Yanfang Gao***. Evaluation of elastic property changes in Karamay oil sand reservoir during thermal stimulation. Energy Science and Engineering, 2019, 7(4): 1233-1253. (SCI)
- [15] **高彦芳**, 陈勉*, 林伯韬, 金衍. 多相非饱和多重孔隙介质的有效应力定律. 工程力学. 2019, 36(1): 32-43. (EI)
- [16] **高彦芳**, 陈勉*, 林伯韬, 金衍, 陈森, 于会永. 温度对油砂力学性质的影响规律研究. 岩石力学与工程学报. 2018, 37(11): 2520-2535. (EI)
- [17] **高彦芳**, 陈勉*, 林伯韬, 金衍. SAGD井挤液扩容水力波及范围模型. 新疆石油地质. 2018, 39(2): 202-208. (中文核心)
- [18] 程志林, 隋微波*, 宁正福, **高彦芳**, 等. 数字岩芯微观结构特征及其对岩石力学性能的影响研究[J]. 岩石力学与工程学报. 2018, 37(2): 449-460. (EI)
- [19] **高彦芳**, 陈勉*, 林伯韬, 庞惠文. 稠油油藏SAGD微压裂阶段储层压缩系数研究——以新疆风城陆相储层重1区齐古组为例. 石油科学通报. 2017, 2(2): 240-250. (科技核心)

在审学术论文

- [1] **高彦芳***, 任战利, 姜海龙, 丁帅伟. 考虑剪胀性和应变软化的油砂非线性弹性模型[J]. 地下空间与工程学报, 2021, w2021-0830, 外审. (中文核心)
- [2] **高彦芳***, 陈勉, 金衍. 非常规油气开采过程中的可相变多孔介质物理模型研究及参数识别[J]. 石

学术会议和学术交流

- [1] **Yanfang Gao**^{*}, Mian Chen. Investigation on liquidity of oil sand bitumen under reservoir temperatures and pressures. 55th US Rock Mechanics/Geomechanics Symposium, 2021, ARMA 21-1919.
- [2] **Yanfang Gao**, Mian Chen^{*}, Li Weichang. Coupled 3D thermo-hydro-mechanical-chemical analysis of Karamay oil sand reservoirs under hot water injection in SAGD wells considering formation heterogeneity. 54th US Rock Mechanics/Geomechanics Symposium, 2020, ARMA 20-1511.
- [3] **Yanfang Gao**, Mian Chen^{*}, Dou Haoyu. Coupled geomechanical-thermal simulation under water injection in oil sand reservoirs considering an assisted vertical well. 54th US Rock Mechanics/Geomechanics Symposium, 2020, ARMA 20-1521.
- [4] Huiwen Pang, Yan Jin^{*}, Jingnan Dong, **Yanfang Gao**, et al. Segmentation methods for X-ray computer tomography images of oil sands. 5th ISRM Young Scholars' Symposium on Rock Mechanics and International Symposium on Rock Engineering for Innovative Future, ISRM-YSRM-2019-166.
- [5] Huiwen Pang, Yan Jin^{*}, Jingnan Dong, **Yanfang Gao**, et al. Deformation visualization in oil sand under water injection by using continuous photographic and DIC technique. 14th International Congress on Rock Mechanics and Rock Engineering, Foz do Iguaçu, Brazil, 2019.
- [6] **Yanfang Gao**, Mian Chen^{*}, Bing Hou, Botao Lin, Kunpeng Zhang, Huiwen Pang, Wenzhi Wang. Modeling of in situ stresses in a shale gas reservoir embedded with finite fault networks considering formation heterogeneity. 53rd U.S. Rock Mechanics/Geomechanics Symposium, 2019, ARMA-2019-0467.
- [7] **Yanfang Gao**, Mian Chen^{*}, Huiwen Pang, Wenzhi Wang. Prediction of temperature and time-dependent nonlinear elastic properties of oil sand under thermal stimulation. 53rd U.S. Rock Mechanics/Geomechanics Symposium, 2019, ARMA-2019-2138.
- [8] **高彦芳**, 陈勉^{*}, 林伯韬, 金衍, 陈森, 于会永. 温度对油砂力学性质的影响规律研究. 第十五次中国岩石力学与工程学术年会. 北京, 2018, 11月19-22日.
- [9] **Yanfang Gao**, Mian Chen^{*}, Botao Lin, Yan Jin. Modeling of reservoir deformation upon preheating in SAGD wells considering phase change of bitumen. 52nd U.S. Rock Mechanics/Geomechanics Symposium, 2018, ARMA-2018-031.
- [10] Hao Wen, Yan Jin^{*}, Tao Wang, Shiming Wei, **Yanfang Gao**. Poroelastodynamic solution for an incline borehole subjected to non-hydrostatic stress field. 52nd U.S. Rock Mechanics/Geomechanics Symposium, 2018, ARMA-2018-274.
- [11] **Yanfang Gao**, Mian Chen^{*}, Botao Lin, Yan Jin. Experimental investigation on compressibility of Karamay oil sands under water injection. 51st U.S. Rock Mechanics/Geomechanics Symposium, 2017, ARMA-

2017-0597.

- [12] Huiwen Pang, Yan Jin*, Botao Lin, **Yanfang Gao**, et al. Mesostructure change in land facies karamay oil sand reservoirs under water injection. 51st U.S. Rock Mechanics/Geomechanics Symposium, 2017, ARMA-2017-0338.
- [13] Meng Fan, Yan Jin*, Bing Hou, Tao Wang, **Yanfang Gao**. Influence of shale creep behavior on the closure of non-propped fractures in shale gas reservoirs. 51st US Rock Mechanics/Geomechanics Symposium, San Francisco, USA, 2017, ARMA-2017-0285.
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学术报告

- [1] 基于地质工程一体化的非常规油气储层微改造理论与关键技术研究及应用. 2021年度石油工程岩石力学论坛, 2021.7.23, 大庆市. (分论坛主题报告)
- [2] Experimental investigation on compressibility of Karamay oil sands under water injection. 51st U.S. Rock Mechanics/Geomechanics Symposium, 2017, San Francisco, California, USA. (Poster presentation)
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发明专利/软件著作权

- [1] **高彦芳**, 任战利, 崔军平. 一种利用纳米流体改善油砂储层传热能力的方法. 国家发明专利. 申请号: 202110725636.2, 2021.06.29.
- [2] **高彦芳**, 任战利, 崔军平. 一种通过挤入饱和CO₂盐水改善油砂储层渗透率的方法. 国家发明专利. 申请公布号: CN113266333A, 2021.08.17.
- [3] 陈森, 林伯韬, 潘竞军, 张磊, 金衍, 游红娟, 蒲丽萍, 黄勇, **高彦芳**等. 水力波及半径的获得方法. 国家发明专利. 授权公开号: CN108121844B, 2021.06.01.
- [4] 林伯韬, **高彦芳**, 金衍, 王琪琪, 侯冰, 卢运虎. 直井辅助SAGD井改造含泥质夹层稠油储层的方法. 国家发明专利. 授权公开号: CN108194069B, 2020.01.17.
- [5] 林伯韬, **高彦芳**, 金衍, 陈勉, 侯冰. 原油及石油产品在不同压力下倾点的测量装置及其方法. 国家发明专利. 授权公开号: CN107255651B, 2020.01.17.
- [6] 林伯韬, **高彦芳**, 金衍, 侯冰, 卢运虎. 岩芯纵横向介电参数的测量装置及其测量方法. 国家发明专利. 授权公开号: CN106199206B, 2019.02.01.
- [7] 林伯韬, **高彦芳**, 金衍, 庞惠文. 一种油砂岩芯的取芯装置. 国家发明专利. 授权公开号: CN105201437B, 2017.06.23.
- [8] 林伯韬, **高彦芳**, 金衍, 庞惠文. 一种油砂岩芯的取芯方法. 国家发明专利. 授权公开号: CN105158014B, 2017.06.23.

[9] 深水油气井井筒环空温度压力计算软件[简称: DeepwaterAnnulus] V1.0. 计算机软件著作权, 2016.04. 17, 2016SR212071.

奖励与荣誉

2021: “石油工程岩石力学十大科技进展” 提名奖(排名2)

2021: 陕西省高校科协青年人才托举计划项目获得者

2018: 中国岩石力学与工程学术年会优秀论文奖

2011-2015: 国家奖学金、国家励志奖学金、中国石油奖学金获得者

社会兼职

2021-至今: 担任以下国际学术会议审稿人

U.S. Rock Mechanics/Geomechanics Symposium

International Conference on Energy Material and Energy Technology

2021-至今: 担任以下学术期刊审稿人

《天然气地球科学》

《石油科学通报》

2017-至今: 美国岩石力学学会(ARMA)会员

2012-至今: 美国石油工程师协会(SPE)会员