Curriculum Vitae

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ABBREVIATION:

ABET = Accreditation Board for Engineering and Technology
CEM = College of Engineering and Mining
DPRI = Daqing Petroleum Research Institute
EOR = Enhanced Oil Recovery
GEODE = Geothermal Energy from Oil and Gas Demonstrated Engineering
HHSGGE = Harold Hamm School of Geology & Geological Engineering
NDIC= North Dakota Industrial Commission
PREEC = Petroleum Research, Education and Entrepreneurship Center of Excellence
RPSEA =Research Partnership to Secure Energy for America

I. HIGHLIGHT IN TEACHING, RESEARCH, AND SERVICE SINCE LAST PROMOTION

Dr. Wang's activities in recent five years can be referred to Table 1 based on yearly evaluation:

Table 1 – Teaching, research, and service percentage

Academic year	2024-2025	2023-2024	2022-2023	2021-2022	2020-2021
Teaching, %	56.7	50.0	45.0	50.0	46.7
	Exceeds	Exceeds	Exceeds	Meets	Exceeds
Research, %	33.3	40.0	45.0	40.0	43.3
	Exceeds	Exceeds	Exceeds	Exceeds	Exceeds
Service, %	10.0	10.0	10.0	10.0	10.0
	Exceptional	Exceeds	Exceeds	Meets	Exceeds

II. EDUCATION BACKGROUND

2004～2007: PhD of Philosophy, Oil & Gas Reservoir Engineering, Research Institute Petroleum Exploration & Development, Beijing, China.

1999～2001: Master of Science, Oil & Gas Development Engineering, Research Institute of Petroleum Exploration & Development, Beijing, China.

1996～1999: B.Sc. Computer Science, Changchun Science & Technology University. Changchun, China

1984～1987: B.Sc. Computer Program Design, Daqing Petroleum University, Daqing, China.

III. PROFESSIONAL EXPERINCE

1. Appointments:

August, 2026～ present

Professor of the Harold Hamm School of Geology & Geological Engineering, University of North Dakota

August, 2020～ 2026

Associate Professor of the Harold Hamm School of Geology & Geological Engineering, University of North Dakota

August, 2014～2020

Assistant Professor of the Harold Hamm School of Geology & Geological Engineering, University of North Dakota

October, 2011～August 2014

Adjunct faculty of Geology in Department of Geology & Geological Engineering, University of North Dakota

July, 2009～June 2011

Research Associate and Petroleum Engineering Scientist in Department of Geology & Geological Engineering, University of North Dakota

July, 2007～July 2009

Director of the *Overseas Petroleum Potential Evaluation Center* of Exploration & Development Research Institute of Daqing Oil Company, PetroChina

July, 2002～July 2009

Chief engineer in *EOR Department* of Exploration & Development Research Institute of Daqing Oil Company, PetroChina

July, 1987～June 2002

Team leader of the EOR Numerical Simulation in EOR Department of Exploration & Development Research Institute of Daqing Oil Company, PetroChina

2. Professional Experience in Industry:

2007-Jul. 2009, in charge of projects:

- Development Case Design of 1/24 of Greater Unity Field in Sudan.
- Development Case Design of 17 of Greater Unity Field in Sudan.
- Evaluation the Feasibility of EOR method for Heglig Oil Field in Sudan.
- Training of polymer flooding technology for KNOC (Korea National Oil Company).
- Suitable Reservoir Condition Study of Polymer Flooding with High Concentration.
- Introduced EOR Technology Being Performed at Daqing for *Saudi Aramco*.
- Prepared a "PRE-QUALIFICATION DOCUMENT" that initiated collaborative projects between PetroChina, Saudi Aramco, and the Kuwait Oil Company in the areas of EOR, Drilling, and Workovers.

***2002-2007, supervisor of projects & the head of projects*:**

- The Criteria Establishing "Technical Requirements for Development and Project Design for Polymer Flooding", Criteria Number: SY/T 6683-2007. Implement Date: March 1st, 2007. **(This is now the standard for polymer flood design throughout China.)**
- Study of the Approach to Enhance Oil Recovery Further After Polymer Flooding, 2004-2006.

- Investigated Sweep Improvement Options for the Daqing Oil Field (including more concentrated polymers, new polymers, gel treatments, colloidal dispersion gels, foams, as well as others), 2005-2006.
- Study of Effects of Fractures on Sweep Improvement for Polymer Flooding of Eastern Berxi in Daqing, 2005.
- Study of the Approach to Enhance Oil Recovery Further After Polymer Flooding.
- Development of Numerical Simulation Software on Polymer Multi-Molecule Weight Injection and Profile Modification, 2004-2006.
- Feasibility Study for Changing the Direction of Liquid Flow to Explore the Remained Oil near the Areas of the Distribution Lines, 2006.
- Study of Option & Evaluation Techniques for New Polymer, 2004-2005.
- Study of Profile Modification Technique, 2004-2005.
- Study of Polymer Flooding Effectiveness for Secondary & Tertiary Oil Strata, 2004-2005.
- Injection Profile Reversals during Polymer Floods: Characteristics and Counter-measures, 2005-2007.
- The Criteria Establishing "Terms of Oil/Gas Reservoir Engineering", 2004-2005.
- Economical Evaluation of Chemical Flooding in 12 Pilot Sites in the Daqing and Kalamayi Oil Fields.
- Feasibility Study of Injection Nitrogen Gas to Improve Oil Recovery for 32-6 Well Pattern in Qinhuangdao, 2004.
- Analysis of Polymer Flooding Techniques for the Main Oil Strata in Daqing, 2005.
- Patent on "A Numerical Simulator Integrating Lower Concentrations of Surfactant with the Other Phases in ASP Flooding", Patent Number: **200310101815.0**. Authorization: Feb. 28th, 2007.
- Improvement of Polymer Flooding Technical Effectiveness, 2004.
- The EOR Database for the Daqing Oil Field, 2003.
- Pilot Test Research of Thermal Method to Enhance Oil Recover After Polymer Drive, 2003.
- Polymer Flooding Development Case Design Optimize, 2003.
- Polymer Flooding Design for Eastern of Central of Saertu in Daqing, 2002.

***1995-2001, Head of Project*:**

- Polymer Flood Design for Eastern of Central Area in Daqing, 2001.
- Re-programming ASP Flood Numerical Simulation Software, 1999.
- Polymer Flood Design for Western 3rd Site of North Daqing, 1998-1998.
- Reservoir Optimization and Development for ASP Flooding in Daqing, 1997-1998.
- Polymer Flooding Numerical Module Development and Application, 1991-1995
- Second Evaluation and Layout for EOR Potential in Daqing, 1996-1998.
- Development of Pre & Post Flood Software for Polymer Flooding Numerical Module, 1991-1995.

1990-1994, Key technical person:

- Numerical Simulation Study of Injection of Natural Gas to Enhance Oil Recovery for Eastern Beier, 1994.
- Study of Pilot Test of WAG (water alternating gas) to Improve Oil Recovery for Shanshan Oil Field in XinJiang, 1993.
- Study of the Pilot Test for Injection of Natural Gas to Enhance Oil Recovery from the Fault East of the First North, 1993-1995.
- "SURFPOL" Numerical Module Development, 1990-1992.

1987-1989, participated:

- Solution Techniques for Parameters in Chemical Flooding Numerical Simulation Software, 1987-1988.
- "POLYMER Flooding" Numerical Module Development, 1987-1989.

IV. COURSES TAUGHT

1. Regular Assignments and Continuing Education Advisees (Undergraduate)

- **Regular Assignments**

Fall:

- GEOE 203/L – Earth Dynamics and Lab, required (from 2012 to 2025)
- GEOE 484 – Senior Design I, required.
- GEOE 420 – Geological Modeling and Numerical Simulation of Reservoirs, elective.

Spring:

- GEOE 301/L – PetroPhysics and Lab, required.
- GEOE 485 – Senior Design II, required.
- GEOE 493 – Underground Mining and Excavating, selective topic.
- GEOE 591 – Advanced Subsurface Energy Recovery in Engineering, elective (even year)
- GEOE 600 – Modern Terminology Interpretation in Subsurface Energy Application

Summer:

- GEOE 301L - PetroPhysics Lab, required for online students.
- GEOE 410 - Summer Field Camp collaborate with South Dakota School of Mines and Technology (2016, 2018), required.

- **Continuing Education Advisees (*semester, number of students*)**

  - 2014 fall: 15; 2015 spring: 15
  - 2015 fall: 14; 2016 spring: 15
  - 2016 fall: 16; 2017 spring: 18
  - 2017 fall: 19; 2018 spring: 19

- 2018 fall: 18; 2019 spring: 14
- 2019 fall: 12; 2020 spring: 8
- 2020 fall: 7 (CEM Dean's office

  After 2021, the college has specialists for advising students for all departments.

2. Graduate Student Advising (*semester, number of students, role*)

- 2014 fall: 2, advisor; 3, committee member;
- 2015 spring: 2, advisor; 3, committee member;
- 2015 fall: 2, advisor; 4, committee member;
- 2016 spring: 2, advisor; 5, committee member;
- 2016 fall: 3, advisor; 5, committee member;
- 2017 spring: 3, advisor; 5, committee member;
- 2017 fall: 3, chair; 5, committee member;
- 2018 spring: 3, chair; 4, committee member;
- 2018 fall: 3, chair; 3, committee member;
- 2019 spring: 3, chair; 2, committee member
- 2019 fall: 4, chair; 3, committee member
- 2020 spring: 3, chair; 4, committee member
- 2020 fall: 2, chair; 4, committee member
- 2021 spring, 1 chair; 4, committee member
- 2021 fall, 2 chair, 4, committee member
- 2022 spring, 1 chair, 4, committee member
- 2023 fall, 1 chair, 8, committee member
- 2024 spring, 3, chairs, 14, committee member
- 2024 fall, 3, chairs, 16, committee member
- 2025 spring, 2, chairs, 13 committee member
- 2026 fall, 2, chairs, 7, committee member

V. SERVICE

1. School

- **ABET** preparation from fall 2024 to present.
- Tenure and Promotion committee member, 2026
- "Academic Program Review" preparation for Geological Engineering program, 2022.
- Associate of Student Experience Funding Committee of the School of HHSGGE (2016 fall – 2022 fall).
- GE program and facility tours for the Prospective Students and others participation
  - 10/17/2014; 11/15/201; 02/23/2014.
  - 03/07/2015; 04/24/2015.
  - 01/24/2016.
  - 06/19/2017; 10/28/2017.
  - Oct. 18, 2018.
- Proctor for the UND DEDP student on Sunday
  - Sep. 21, 2017; Nov. 14, 2017, for student Schultz Alyssa, CHEM 122

- Oct. 13, 2018; Dec. 9, 2018, for students Devin Perkins and Schultz Alyssa, FA 150

- Senior design presentations, graduate student proposals, and thesis proposals participation in each semester (2014 fall – present)

2. College

- Chair of Academic Program Committee of CEM (2021 to 2023 spring).
- Curriculum committee member representative of the School of Geology & Geological Engineering in the college of CEM (2016, 2018, 2019, 2020, 2023 fall, 2024 spring. 2024 fall, 2025 spring).
- Academic Mentor for student Noel-Berje Raphael from the Department of Energy and Petroleum Engineering (2024 fall – 2026 spring).

3. University

- An ambassador for an international FIRST Robotics Competition (March 14-16, 2019)

4. Professional Associations

- Associate Editor of the *Society of Petroleum Engineers Journal* (Oct. 2018 – present)
- A co-editor of the Journal of *Processe*s (2025 spring – present).
- A Judge of SPE Rocky Mountain Section for Graduate Student paper and Regional Service Award (2022, 2023, 2024)
- Student Liaison between Student SPE chapter of UND and the Society of Petroleum Engineers–Williston Section (2015 – present)
- Proposal reviewer for Louisiana Board of Regents Support Fund R & D Grants programs (2023-2024, 2024-2025).
- A Judge for postures at the 2016 AAPG Annual conference
- A Judge for postures at the 2015 AAPG Annual conference
- Membership Chair of the Society of Petroleum Engineers–Williston Section (Feb 2011–Jan. 2015)
- Technical peer reviewer for the *Society of Petroleum Engineers Journal* (Jan. 2013 – Sep. 2018)
- Technical peer reviewer for the *Society of Journal of Petroleum Science & Engineering* (Jan. 2012 – present)
- Technical peer reviewer for the *Journal of Natural Gas Science and Engineering (*May 2016 – present)

VI. SELECTED PUBLICATIONS

Notes: **(1)** Ranks of Journal are sourced from www.google.com and www.scimagojr.com (SJR). **(2)** The first authors with the names of Detwiler, S.; Olatunji, K.; Zhang, J., Namie Shane, Li Chunxiao, Jakaria, MD, Mohammed Ashraf, Oni Ofelium, Bina Farhad were graduate students; Wang, X. was one of the visiting Scholars in the papers after 2014. **(3)** The conference proceedings during 2018

to 2021 where related to the polymer EOR in ANS were lined up alphabetically in authors' names from various universities and companies for a DOE project.

Published in Peer-Reviewed Journals:

- Sorbie, K.S., Seright, R.S, Beteta, A., **Wang, D.,** and Silva, C.M. 2026. The Kinetics of Polymer Adsorption in Transport through Porous Media: Basic Theory. *Polymers*, September 2026. 18 (19), 2394. 1-30. https://doi.org/10.3390/polym18192394
- **Wang, D.,** Ji, Y., Gosnold, W., and Oni, O. 2026. A Study of geothermal Energy Sweep Efficiency Improvement in the Williston Basin based on Oil/Gas Engineering Concepts. *Geothermics*, April 2026. 139 (2026) 103684. 1-18. https://doi.org/10.1016/j.geothermics.2026.103684.
- Visigah, K., **Wang, D**., Zhang, J., and Gupta, S. 2026. Efficiency Assessment of Crude Oil Contamination Remediation Using Green Surfactant and Biofoam Material: A Case Study of the Bodo Region, Nigeria. *Processes*, April 2026. 2026 14, 1386. 2-12. https://doi.org/10.3390/pr14091386.
- Jakaria, M., Ling, K., Pu, H., **Wang, D**., Crowell, J., Eagle, L., Weaver, B., and Longie, C. 2025. Lithium and Salt Extraction from the Bakken Producer Water. ***Journal of Petroleum Exploration and Production Technology***. 15,167 (2025). https://doi.org/10.1007/s13202-025-02012-9. Impact factor: 2.5, Q2. Contribution: manuscript major revision.
- Oni, O., JI, Y., Wang, D., Bina, F., and Du, G. 2025. Development of Polymer Gel for Severely Fractured Geothermal Systems. Process, 13(3632). https://www.mdpi.com/2227-9717/13/11/3632
- Bina, F., **Wang, D.,** Ji, Y., Alamooti, M., Oni, O. 2025. Response Surface Analysis of Biopolymer Gel Performance in Fractured High Temperature Formation. ***Geothermal Rising Conference***. October 2025, Reno, NV. Contribution: partially manuscript drafting and overall modification.
- Jakaria, M., Ling, K., Wang, D., Crowell, J., and Zheng, D. 2025. Economic Analysis of Lithium and Salts Recoveries from Bakken Formation. May, 2025. ***SPE Journal (SPEJ)***. 30(05), 3122-3136. https://doi.org/10.2118/220910-PA. Impact factor: 3.2, Q1, h-index: 162. Contribution: manuscript modification.
- Namie, S. and Wang, D. 2024. EOR of heavy oil polymer on Alaska's North Slope: History matching challenges and solutions in a significant long-term water cut reduction. ***GSC Advanced Research and Reviews***, 18(2), 072-086. https://doi.org/10.30574/gscarr.2024.18.2.0039. Impact factor: 7.64. Contribution: manuscript modification.
- Wang, D., Ji, Y., Gosnold, W., Alamooti, M., Namie, S., Oni, O. 2023. Enhanced Sweep Efficiency in EGS Using a Bio-Polymer Supplement from Over fractured Oil/Gas Operations. ***GRC Transactions***. Vol, 47, 2023. pp: 2550-2562. October 2023. h-index: 32. Contribution: manuscript drafting.

- Seright, R. and Wang, D. 2023. Literature Review and Experimental Observations of the Effects of Salinity, Hardness, Lithology, and ATBS Content on HPAM Polymer Retention for the Milne Point Polymer Flood. ***SPE Journal***, Volume 28 (05). pp 2300-2315. October 2023. https://doi.org/10.2118/212946-PA. Impact factor: 3.2, Q1, h-index: 162. Contribution: manuscript drafting.

- Seright, R. and Wang, D. 2023. Polymer Flooding: Current Status and Future Directions. ***Petroleum Science***. Volume 20 (2), pp 910-921. February 2023. https://doi.org/10.1016/j.petsci.2023.02.002. Impact factor: 1.3, Q1, h-index: 61. SJR 2024:1.219. Contribution: manuscript drafting.

- Wang, D., Namie, S., and Seright, R. 2022. Pressure Modification or Barrier Issues during Polymer Flooding Enhanced Oil Recovery. ***Geofluids,*** Volume 2022. https://doi.org/10.1155/2022/6740531. Impact factor: 1.7, Q2. Contribution: manuscript drafting.

- Seright, R. and Wang, D. 2022. Polymer Retention Tailing Phenomenon Associated with the Milne Point Polymer Flood. ***SPE Journal***, Volume 27 (05). pp 2863-2881. October, 2022. http://doi:10.2118/209354-PA. Impact factor: 3.2, Q1, h-index: 162. Contribution: manuscript drafting.

- Zhang, J. and Wang, D. 2021. Aqueous Imbibition Further Investigation on Contact Area Penetration Enhancement for Hydrocarbon Extraction from Tight Rocks. ***Journal of Petroleum Science and Engineering***, January, Volume 208, Part B. doi: https://doi.org/10.1016/j.petrol.2021.109206. Impact factor: 5.17, Q2, h-index: 148. Contribution: manuscript modification.

- Wang, D., Seright, R.S. 2021. Examination of Literature on Colloidal Dispersion Gels for Oil Recovery. ***Petroleum Science***, Volume 18(4), pp.1097-1114. doi:10.1016/j.petsci.2021.07.009. Impact factor: 1.3, Q1, h-index: 61. SJR 2024:1.219. Contribution: manuscript drafting.

- Li, C., Wang, D., and Kong, L. 2021. Application of Machine Learning Techniques in Mineral Classification for Scanning Electron Microscopy – Energy Dispersive X-ray Spectroscopy (SEM-EDS) Images. ***Journal of Petroleum Science and Engineering***. May, Volume 200. doi: https://doi.org/10.1016/j.petrol.2020.108178. Impact factor: 5.17, Q2, h-index: 148. Contribution: manuscript modification.

- **Wang, D.,** Li, C., and Seright, R. 2020. Laboratory Evaluation of Polymer Retention in a Heavy Oil Sand for a Polymer Flooding Application on Alaska's North Slope. ***SPE Journal.*** Volume 25(04), 1842-1856. May 2020. doi:10.2118/200428-PA. Impact factor: 3.2, Q1, h-index: 162. Contribution: manuscript writing.

- Gosnold, W., Ballesteros, M., **Wang, D.,** and Crowell, J. 2020. Using Geothermal Energy to Reduce Oil Production Costs. ***GRC Transactions.*** Vol. 44, 2020. Pp: 717-728. https://www.geothermal-library.org/index.php?mode=pubs&action=view&record=1034249.

- Seright, R.S., **Wang, D.,** Lerner, N., Nguyen, A., Sabid, J., and Tochor, R., 2018. Can 25-cp Polymer Solution Efficiently Displace 1,600-cp Oil during Polymer Flooding. ***SPE Journal,*** December, Volume 23 (6), 2260-2278. ISSN: 1930-0220. doi:10.**2118**/190321-PA.

- Olatunji, K., Zhang, J., **Wang, D.** 2018. Effect of the Rock Dimension on Surfactant Imbibition Rate in the Middle Member of Bakken: Creating a Model for Frac Design. ***Journal of Petroleum Science and Engineering,*** April, Volume 169 (2018), 416-420. doi: 10.1016/j.petro.2018.05.075.

- Wang, X., Hou, J., Song, S., **Wang, D**., Gong, L., Ma, K., Yan, L. 2018. Combining pressure-controlled porosimetry and rate-controlled porosimetry to investigate the fractal characteristics of full-range pores in tight oil reservoirs. ***Journal of Petroleum Science and Engineering***, December. Volume (171), 353-361. ISSN: 0920-4105. doi: https://doi.org/10.1016/j.petrol.2018.07.050.
- **Wang, D.,** Zhang, J., Butler, R., 2017. Fluid Interaction with Tight Rocks to Induce Energy Recovery. ***Oil & Gas Research,*** April, Volume 3 (2), 441-449. ISSN: 2472-0158. doi: 10.4172/2472-0158.1000134.

- **Wang, D.,** Zhang, J., Butler, R., Olatunji, K., 2016. Scaling Laboratory Data Surfactant Imbibition Rates to the Field in Fractured Shale Formations. ***SPE Engineering & Evaluation,*** August, Volume 19 (03), 441-449. doi: http://dx.doi.org/10.2118/178489-PA.

- **Wang, D.,** 2015. Surfactants May Boost Bakken Output. ***AOGR,*** February, Volume 58 (2), 88–91.

- **Wang, D.,** 2014: Mixing Oil and Water May Keep Bakken Wells Flowing. ***Bakken Oil Business Journal***. February, 46-47.

- **Wang, D.,** Butler R., Zhang, J., Seright, R. 2012. Wettability Survey in Bakken Shale Using Surfactant Imbibition. ***SPE Reservoir Evaluation & Engineering***, Volume 15(6), 695-705. doi: http://dx.doi.org/10.2118/153853-PA

- **Wang, D.,** Butler R., Liu, H., Ahmed, S., 2011. Flow Rate Behavior in Shale Rock. ***SPE Reservoir Evaluation and Engineering***, Volume 14(4), 505-512. doi: http://dx.doi.org/10.2118/138521-PA

- **Wang, D,** 2013. Chapter-4**:** "Polymer Flooding Practice in Daqing", of the book of "Enhanced Oil Recovery Field Case Studies". ***Elsevier***, ISBN-9780123865458, 83-116.

- Seright, R, Zhang, G., Akanni, O.O., **Wang, D**. 2012. A Comparison of Polymer Flooding with In-Depth Profile Modification. ***Canadian Petroleum Technology***. September, Volume 51(5), 393-402. doi: http://dx.doi.org/10.2118/146087-PA

- **Wang, D.,** Dong, H., Lv, C., Fu, X. Ne, J., 2009**.** Review of Practical Experience by Polymer Flooding at Daqing. ***SPE Reservoir Evaluation and Engineering***, Volume 12(3), 470-476. doi: http://dx.doi.org/10.2118/114342-PA

- **Wang, D.,** Wang, J., Shao, Z., Seright, R., 2008. Key Aspects of Project Design for Polymer Flooding. ***SPE Reservoir Evaluation and Engineering***, Volume 11(6), 1117-1124. doi: http://dx.doi.org/10.2118/109682-PA

- **Wang, D.,** Han, P., Shao, Z., Hou, W., Seright, R., 2008. Sweep Improvement Options for the Daqing Oil Field. ***SPE Reservoir Evaluation and Engineering***, Volume 11(1), 18-26. doi: http://dx.doi.org/10.2118/99441-PA

- **Wang, D.,** Han, D., Xu, G., Li, Y., 2008. HPAM Affecting Foam Capability with α-Olefin Sulfonate Surfactant. ***PETROLEUM EXPLORATION & DEVELOPMENT,*** Volume 35(3), 335-338.

- **Wang, D.,** Han, D., Shao, Z., Ma, M., 2007. Factors Affecting Follow-up Water Drive during Polymer Flooding. ***JOURNAL OF DAQING PETROLEUM INSTITUTE,*** April, Volume 31(2), 45-49.

- **Wang, D.,** Han, D., Hou, W., Cao, R., Wu, L., 2007. The Types and Changing Laws on Profile Reversal during the Period of Polymer Flooding. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING,*** August, Volume 26(4), 96-99.

- **Wang, D.,** Han, P., Gao, S., Li, Y., Seright, R., 2007. Study of the Possibility of Fractures occurring Within a Polymer Flood. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING***, October, Volume 26(5), 102-105.

- Seright, R., Han, P., **Wang, D.** 2006. Current Colloidal Dispersion Gels Are Not Superior to Polymer Flooding. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING***, September, Volume 5(5)**,** 71-80.

- Chen, G., Liao, G., Ma, Y., **Wang, D.,** 2002. The Mathematics Module in the Two-Phase Thin Formula for ASP Displacement Mechanism. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING,*** February, Volume 21(1), 70-72.

- Xu, Z., **Wang, D,** *et al*, 2001. Evaluation of Polymer Flooding Potential for Daqing Oil Field. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING,*** April, Volume 20(2), 50-52.

- Zhao, G., **Wang, D,** Wang, B., 2001. Methodology of File Accessing in Numerical Simulator of ASP Flooding. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING,*** April, Volume 20(2), 78-82.

- Shao, Z., Fu, T., **Wang, D.** 2001. Study of Reasonable Polymer Volume. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING,*** April, Volume 20(2), 60-62.

- **Wang, D.,** Hao, Y., Zhu, L., 1999. Analysis of the Reasonable Well-Pattern and Well-Distance for ASP Flooding. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING.*** June, Volume 18 (3), 60-62.

- **Wang, D.,** Li, R., Bai, D., 1994. Study of Numerical Simulation for Natural Gas Injection to Enhance Oil Recovery. ***PETROLEUM GEOLOGY & OILFIELD DEVELOPMENT IN DAQING***, December, Volume 13 (4), 45-47.

Published and Presented in the conference

- **Wang, D**., Ji, Y., Gosnold, W., Bina, F., Mohammed, A., and Oni, O. 2025. Experience and Insights for Sweep Efficiency Improvement from an Unconventional Geothermal Energy Formation in Williston Basin. This paper was prepared for presentation at the AAPG International Conference and Exhibition (ICE), 30 September - 3 October 2025 in Rio de

Janeiro, Brazil.

- Bina, F., **Wang, D.,** Ji, Y., Alamooti, M., Oni, O. 2025. Response Surface Analysis of Biopolymer Gel Performance in Fractured High Temperature Formation. Will be presented in GRC Conference, October 2025 (International).

- Mohammed, A., Namie, S., **Wang, D**. Oni, O. and Ji, Y. 2025. Geothermal Sweep Efficiency Enhancement Potential Analysis Using Geological Modeling and Numerical Simulation on Unconventional Deadwood Formation. This paper URTeC 4233685 was prepared for presentation at the Unconventional Resources Technology Conference held in Houston, Texas, USA 9-11 June 2025, https://doi.org/10.15530/urtec-2025-4233685 **(International).**

- Oni, O., Alamooti, M. Namie, S. Ji, Y., and **Wang, D**. 2024. Development and Stability study of Hydroxyethyl cellulose-based Polymer Gel System for Geothermal Applications. Presented in Red-River Valley, American Chemical Society (RRV-ACS) Conference. February 2-3, 2024, Bemidji, ND. **(Regional).**

- **Wang, D**., Ji, Y., Gosnold, W., Alamooti, M., Namie, S., Oni, O. 2023. Enhanced Sweep Efficiency in EGS Using a Bio-Polymer Supplement from Over fractured Oil/Gas Operations. Presented on Geothermal Rising Conference, October 27-30. 2023. **(International).**

- **Wang, D.,** Namie, S., and Seright, R. 2023. Water Intake Profile Analysis for the First Polymer Flooding to Heavy Oils on Alaska's North Slope for Potential of Improved Recovery. Paper URTEC-3853961-MS was published and presented at the Unconventional Resource technology and Exhibition Technology Conference in Denver, CO. USA, June 13-15. **doi: https://doi.org/10.15530/urtec-2023-3853961. (International).**

- **Wang, D.,** Namie, S., and Seright, R. 2022. Pressure Barrier Applicability to Polymer Flood Design. Paper SPE-209462-MS was published and presented at the SPE Virtual Improved Oil Recovery Conference. USA, 25-29, April **(International).**

- Namie, S., Wang, X., Wang, D. et al. 2021. Challenge Solutions for a Significant Water Cut Reduction History Match on Heavy Oil Polymer EOR. ***European Association of Geoscientists & Engineers***, October. doi: https://doi.org/10.3997/2214-4609.202113247. **(International, abstract paper).**

- Dandekar, A., Bai, B., Barnes, J., Cercone, D., Cifemo, J., Edwards, R., Ning, S., Schalper, W., Seright, R., Sheets, B. **Wang, D**., and Yin, Z. 2021. First Ever Polymer Flood Field Pilot to Enhanced Recovery for Heavy Oils on Alska's North Slope Pushing Ahead One Year Later. Paper presented at the SPE Annual Technical Conference and Exhibition, September 21–23, 2021. https://doi.org/10.2118/206228-MS **(International)**

- **Wang, D.,** Li, C., and Seright, R. 2020. Polymer Retention Evaluation in a Heavy Oil Sand for a Polymer Flooding Application on Alaska's North Slope. Paper SPE-200428-MS was published and presented at the SPE Improved Oil Recovery Conference, Tulsa, Oklahoma,

USA, 20-23 April **(International)**

- Dandekar, A., Bai, B., Barnes, J., Cercone, D., Ciferno, J., Edwards, R., Ning, S., Schulpen, W., Seright, R., Sheets, B., **Wang, D**., Zhang, Y., 2020. First Ever Polymer Flood Field Pilot to Enhance the Recovery of Heavy Oils on Alaska's North Slope - Pushing Ahead One Year Later. Paper SPE-200814-MS was presented and published at the SPE Western Regional Meeting, April 27 to May 1, Bakersfield, CA **(Regional)**

- Namie, S. and **Wang, D.,** 2020. An Expanded Geological Reservoir Model of the West Sak & Ugnu Heavy Oil Sands: A First Step in Exploring EOR Methods on the Alaska North Slope. It was posted the AAPG Europe Regional Conference, 28-29 January, Athens, Greece **(Regional)**

- **Wang, D.**, Namie, S., and Li, C. 2019. Impact of Polymer or Surfactant Flooding on Permafrost Stability. Paper URTeC 271 was present at the SPE/AAPG/SEG Unconventional Resource Technology Conference, 22-24 July, Denver, CO. doi:10.15530/URTEC-2019-271 (**International)**

- Gosnold, W., Abudureyimu, S., Tsiryapkina, I, and **Wang, D.,** 2019. Geothermal and Electric Power Analysis of Horizontal Oil Well Fields Williston Basin, North Dakota, USA, the article was present at the AAPG European Region, 3rd Hydrocarbon Geothermal Cross over Technology Workshop, 9-10 April, Geneva, Switzerland. doi:10.1306/80681Gosnold2019. (**International)**

- Dandekar, A., Bai, B., Barnes, J., Cercone, D., Ciferno, J., Ning, S., Seright, R., Sheets, B., Wang, D., Zhang, Y., 2019. First Ever Polymer Flood Field Pilot – A Game Changer to Enhance the Recovery of heavy Oils on Alaska's North Slope. Paper SPE-195257-MS was presented and published at the SPE Western Regional Meeting, 23-26 April, Houston, San Jose, CA **(Regional)**

- **Wang, D.,** 2019**.** How to Keep Hydrocarbon Flowing Using Environmental Friendly Chemical Formulations? Was presented at the Chemistry Department of UND, 12 April, Grand Forks, ND. **(Local)**

- Zhang, J., **Wang, D.**, 2018**.** Chemical Stimulation with Driving Process to Extract Oil from Tight Formation**.** Paper SPE-2903115-MS was presented at the SPE/AAPG/SEG Unconventional Resource Technology Conference, 23-29 July, Houston, TX. doi:10.15530/URTEC-2018-2903115 **(International)**

- Detwiler, S., **Wang, D**., 2018. An Integrated Geological Modeling Approach to Assess Potential of Field Wells for Application of a Surfactant Imbibition Process in an Ultra-Tight Rock Formation**.** Paper SPE-28860605-MS was presented at the SPE/AAPG/SEG Unconventional Resource Technology Conference, 23-29 July, Houston, TX. doi:10.15530/URTEC-2018-2886060 **(International)**

- **Wang, D,** Zhang, J., 2018. Surfactant Drive Process in Ultra-Tight Fractured Reservoirs for EOR. EAGE-1495 was presented at the SPE Europec Featured at 80th EAGE Conference & Exhibition, 11-14 June, Copenhagen, Denmark**.** doi: 10.3997/2214-4609.201801113 **(International, Abstract)**

- Seright, R.S., **Wang, D.,** Lerner, N., Nguyen, A., et al, 2018. Beneficial Relative Permeabilities for Polymer Flooding. Pper SPE-190321-MS was presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 14-18 April**.** doi: https://doi.org/10.2118/190321-MS **(International)**

- **Wang, D,** Zhang, J.**,** and Detwiler, S. 2017. Maximizing Oil Production Using Surfactant EOR. Presented at the *The BAKKEN* Conference & EXPO, Bismarck, ND, 17-19 July (**Regional**)

- **Wang, D**., Seright, R., Moe Soe Let, K.P., Bhoendie, K., Paidin, W.R. 2017. Compaction and Dilation Effects on Polymer Flood Performance. Paper SPE-185851-MS was presented at the SPE Europec featured at 79th EAGE Annual Conference & Exhibition held in Paris, France, 12-15 June 2017. doi: https://doi.org/10.2118/185851-MS **(International)**

- **Wang, D.,** Dawson, M., Butler, R., Li, H., Zhang, J., 2016. Optimizing Water Chemistry to Improve Oil Recovery from the Middle Bakken Formation. Paper SPE-179541-MS was presented at the SPE IOR International Conference held in Tulsa, OK, USA, 9-13, April. doi: https://doi.org/10.2118/179541-MS **(International)**

- Zhang, J., **Wang, D**., Olatunji, K., 2016. Surfactant Adsorption Investigation in Ultra-lower permeable Rocks. Paper SPE-180214-MS was presented at the SPE Low Perm Symposium held in Denver, Colorado, USA, 2-6, May. doi: https://doi.org/10.2118/180214-MS **(Regional)**

- **Wang, D.,** Zhang, J., Butler, R., Olatunji, K., 2015. Scaling Laboratory Data Surfactant Imbibition Rates to the Field in Fractured Shale Formations, paper URTeC 2137361 was presented in the Unconventional Resource Technology Conference, San Antonio, Texas, July 20-22. doi: https://doi.org/10.15530/URTEC-2015-213761 **(International)**

- **Wang, D.,** Zhang, J. Butler R., 2014. Flow Rate Behavior and Imbibition Comparison between Bakken and Niobrara Formations. Paper URTec 1920887 was presented at the Unconventional Resource Technology Conference, Denver, Colorado, 25-27, August. doi: https://doi.org/10.15530/URTEC-2014-1920887 **(International)**

- Nguyen, D., **Wang, D.,** Oladapo, A., Zhang, J., 2014. Evaluation of Surfactants for Oil Recovery Potential in Shale Reservoirs. Paper SPE-169085-MS was presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 12-16 April. doi: http://dx.doi.org/10.2118/169085-MS **(International)**

- Zhang, J., **Wang, D.,** Butler R., 2013. Optimum Salinity Study to Support Surfactant Imbibition into the Bakken Shale. Paper SPE-167142-MS was presented at the SPE Unconventional Resource Canada, Calgary, Alberta, Canada, 5-7 November. doi:

http://dx.doi.org/10.2118/167142-MS **(International)**

- **Wang, D.,** Butler R., Zhang, J., Seright, R. 2012. Wettability Survey in Bakken Shale Using Surfactant Imbibition. Paper SPE-153853 was presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 14-18 April. doi: http://dx.doi.org/10.2118/153853-MS **(International)**

- **Wang, D.,** Butler R., Liu, H., Ahmed, S., 2011. Surfactant Formulation Study for Bakken Shale Imbibition. Paper SPE-145510-MS was presented at the SPE Annual Technical Conference and Exhibition, Denver, Colorado, USA. 30 October-2 November, doi : http://dx.doi.org/10.2118/145510-MS **(International)**

- **Wang, D.,** Butler R., Liu, H., Ahmed, S., 2010. Flow Rate Behavior in Shale Rock. Paper SPE-138521-Ms was presented at the SPE Eastern Regional Meeting, Morgantown, West Virginia, USA, 13-15 October. DOI: http://dx.doi.org/10.2118/138521-MS **(Regional)**

- Dong, H., Fang, S., **Wang, D.,** Wang, J., Liu, Z., 2008. Review of Practical Experience by Polymer Flooding at Daqing. Paper SPE-114342-MS was presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 20-23 April. doi:: http://dx.doi.org/10.2118/114342-MS **(International)**

- **Wang, D.,** Seright, R., Shao, Z., Wang, J., 2007. Key Aspects of Project Design for Polymer Flooding. Paper SPE-109682-MS was presented at the SPE Annual Technical Conference and Exhibition, Anaheim, California, USA, 11-14 November. doi :http://dx.doi.org/10.2118/109612-MS **(International)**

- **Wang, D.,** Han, P., Shao, Z., Seright, R., 2006. Sweep Improvement Options for the Daqing Oil Field. Paper SPE-99441-MS was presented at the SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 22-26 April. doi: http://dx.doi.org/10.2118/99441-MS **(International)**

- **Wang, D.,** Liao, G., Niu, J., et al, 2003. Evaluation of Numerical Simulation Matching Study on the ASP Field Tests in Daqing Oilfield. Paper was presented in THE INTERNATIONAL SYMPOSIUM OF THE EFFICIENT PRODUCTION OF OIL AND GAS FIELDS, Beijing, China, and October. **(International)**

VII. SEMINARS

1. A Seminar to the **Universidade Estadual do Norte Fluminense, Brazil** on the topic of "EOR: Theoretical, Experimental and Applications Aspects", **July 1st, 2021**.

2. A Seminar to the **Society of Petroleum Engineering, Brazil** on the topic of "Review of Practical Experience by Polymer Flooding", **November 10, 2020.**

3. A seminar to the Chemistry Department of UND on the topic of **"**How to Keep Hydrocarbon Flowing Using Environmental Friendly Chemical Formulations", **April 12, 2019.**

VIII. GRANTS AND CONTRACTS FUNDED (Regardless of proposal submitted)

1. Representative of UND for GEODE Project Consortium from September 12, 2024, to September 30, 2029.

2. Key figure of the project "Geothermal development Consortium for the Williston Basin", funded by NDIC (06/1/2021 to 6/30/2026).

3. PI of the project "Enhanced Sweep Efficiency for Geothermal Renewable Energy Using Bio-Polymer Supplement", funded by NDIC (01/1/2023 to 06/30/2025). Total Amount: $942,877

4. PI of the project "Wettability and Retention Investigation in Fine Rocks Using Bio-Based Material Combined with Surfactant and Rich Gas", funded by ND EPSCOR (10/16/2019 to 10/15/2020). Total Amount: $40,000

5. PI of the UND for the project "First Ever Field Pilot on Alaska's North Slope to Validate the Use of Polymer Floods for Heavy Oil EOR", collaborate with UAF, NMT, and MS&T, and Hilcorp Alaska, LLC. Funded by DOE (6/1/2018 to 9/30/2022). Total Amount: $315,000

6. PI of the project "Enhanced Oil Recovery Process Investigation Using Chemical Formulations and Injectivity in Ultra-Tight Sand" funded by Statoil (11/2013 to 10/2017). Total Amount: $270,000

7. PI of the project "Aqueous Liquid Imbibition Laboratory Study for Stimulating Oil Field Production" funded by CESI (12/ 2014 to 05/2015). Total Amount: $50,000

8. PI of the project "Surfactant Formulation Study for Enhancing Wattenberg Field Oil Production" funded by Noble Energy (01/2013 to 06/2014). Total Amount: $191,000

9. PI of the project "Wettability Alteration Investigation Using Surfactant Formulation for Shale" funded by ConocoPhillips (11/2013 2013 to 09/ 2014). Total Amount: $90,000.

10. PI of the project "Enhanced Oil Recovery from the Bakken Shale Using Surfactant Imbibition Coupled with Gravity Drainage" funded by DOE/RPSEA and NDIC (03/2011-03/2014). Total Amount: $625,000

11. PI of the project "Fracture Liquid Investigation Using New Chemical Formulations in Ultra-Tight Reservoir" funded by NACOL CHAMPION (4/2012 to 12/2012)

12. CO-PI of the project "Chemical Formulation Study for Oil Extraction and Reuse- Part II" funded by GOLDSTRYK (8/2016 to 12/2016)

13. CO-PI of the project "Chemical Formulation Study for Oil Extraction and Reuse" (10/2013 to 06/2014)

14. CO-PI of the project "A Proposed Fracturing Fluid Study Using Glycerin to Improve Hydraulic Fracturing Treatment Capability" sponsored by Sunrise Education and Research Program (2/2011/ to 12/2011)

IX. PROFESSIONAL EDUCATION

- 02/03/2025 – 02/19/2025: JewelSuite Certificate
- 01/2019 – 04/2019: NCFDD Faculty Success Program
- 09/2018 – 04/2019: English Speaking and Writing Skills Improvement, UND Language Department and Clinic Center
- 09/2016: Cap-rock Integrity for Thermal Recovery, Calgary
- 09/2014 – 04/2015: Alice Clark Mentoring Program
- 05/2016 – 06/2006: Administration and Leadership Technology Program, South-East University in Nanjing, China.
- 12/2003: High Molecular Weight Physical and Interfacial Chemical, Department of Training Center of DPRI.
- 06/1998: Reservoir Numerical Simulation Application and Geological Engineering Development, Daqing Oil Company.
- 05/1994 – 06/1991: UNIX Operating System and Network Administration Training, SGI Compute Company, Asia Branch, Hong Kong.
- 10/1989: Application Mathematical for Reservoir Numerical Simulation Software, Harbin Industrial University.

X. AWARDS/HONORS:

Honors:

- A Top 2% Scientists List for their significant global research impact of UND named to the Stanford-Elsevier in 2025.
- 2024 "A Peer Apart Honor" from SPE.
- 2024-2025 Appreciation for Rocky Mountain NA Region Award Selection
- 2023 Appreciation for Regional Student Paper Contest Selection
- 2021 Appreciation for Student Chapter Award Judge
- 2022 A Honor of The GRADitude Project from UND
- "2019 Outstanding Technical Editor for SPE Journal Award of Appreciate", 2019.
- "2018 Outstanding Technical Editor for SPE Journal Award of Appreciate", 2018.
- "2017 Outstanding Technical Editor for SPE Journal Award of Appreciate", 2017.
- "2016 Outstanding Technical Editor for SPE Journal Award of Appreciate", 2016.
- "2015 Outstanding Technical Editor for SPE Journal Award of Appreciate", 2015.
- The key academic leader of Polymer flooding technology in EDRI, 2002 to 2006.

Awards:

1. Sweep Improvement Technologies by Polymer Flooding for 1st Class Oil Strata in Daqing. Award for Outstanding Production Project from DPRI, 2007.

2. Sweep Improvement Technologies by Polymer Flooding for 1st Class Oil Strata in Daqing. Award for Outstanding Research Team from DPRI, 2006.
3. Further Enhance Oil Recovery by Polymer Flooding for 1st Class Oil Strata in Daqing. Award for Special Grade Technology Innovation of "11th-5 Years Strategically" from Daqing Oil Company, 2005.
4. Evaluation of Polymer Flooding for Western 3rd Site of North in Daqing. Award for Outstanding Technology Work from DPRI, 2004.
5. Outstanding woman scientist in Daqing Oil Field Company, 2004.
6. Outstanding woman scientist of top ten in DPRI, 2003.
7. Outstanding promising scientist nomination of top ten in DPRI, 2002.
8. Outstanding employee of DPRI & backbone of the EOR numerical simulation field, from 1988 to 2001.
9. Polymer Flooding Design Optimization. Award for Outstanding Production Project from DPRI, 2002.
10. Polymer Flooding Development for Eastern of Central Area. Award for Outstanding Production Project from DPRI, 2001.
11. Re-programming the ASP Flooding Numerical Simulation Software. Award for Technology Innovation from Daqing, 2001.
12. Measuring Parameters for Numerical Simulation Module for ASP Flooding. Award for Technology Innovation from DPRI, 2000.
13. Second Evaluation and Layout for EOR Potential in Daqing. Award for Technology Progress from Daqing, 1998.
14. Development of Pre & Post Flooding Software for Polymer Flooding Numerical Module. Award for Technology Progress from Daqing, 1995.
15. Development of the Polymer Flooding Numerical Module Application. Award for Technology Progress from Daqing, 1995.
16. Development of the Pilot Test for Injection Natural Gas to Enhance Oil Recovery from the Fault East of the First North. Award for Technology Progress from Daqing, 1995.
17. "SURFPO" Numerical Module Development. Award for Technology Progress from Heilongjiang Province, 1992.
18. "Polymer Flooding" Numerical Module Development. Award for Technology Progress from Daqing, 1989.

XI. PATENT AND CRITERIA ESTABILISHED

Patent:

Wang, D., Liao, G., Niu, J., Chen, G., Gu, G., Wang, B., 2007. "A Numerical Simulator Integrating Lower Concentrations of Surfactant with the Other Phases in ASP Flooding", Patent Number: **200310101815.0**. Authorization: Feb. 28th.

Criteria Established

Wang, D., Gao, S., Sun, H., Zhang, J., Cao, R., Ma, M, Hou, W., 2007: Criteria "Technical

Requirements for Development and Project Design for Polymer Flooding", Criteria Number: SY/T 6683-2007. Implement Date: March 1st, 2007.