

RAMADAN AHMED

University of Oklahoma • Mewbourne School of Petroleum and Geological Engineering
Room 1180 Sarkeys Energy Center • 100 E. Boyd St. • Norman • OK 73019 • USA
Phone: (405) 325-0745 • Fax: (405) 325-7477 • Email: r.ahmed@ou.edu

EDUCATION

PhD in Petroleum Engineering, Norwegian University of Science & Technology (NTNU), Norway, 2001.

MSc in Petroleum Engineering, NTNU, 1997.

BSc in Chemical Engineering, Addis Ababa University, Ethiopia, 1989.

RESEARCH INTERESTS

- Cuttings/solids transport;
- Drilling fluid rheology and wellbore hydraulics;
- Underbalanced and managed pressure drilling and well control;
- Drilling simulation;
- Downhole instrumentation; and
- Degradation of cement and tubulars.

TEACHING INTERESTS

- Undergraduate: Drilling and Completions, New Drilling Technologies, and Well Control.
- Graduate: Non-Newtonian Fluid Mechanics, Advanced Drilling, and Solids Transport.

RESEARCH AND PROFESSIONAL EXPERIENCE

2020-Present Professor, Mewbourne Chair, University of Oklahoma, Norman, USA

2014-2020 Associate Professor, Mewbourne Chair, University of Oklahoma, Norman, USA

2008-2014 Assistant Professor, University of Oklahoma, Norman, USA

2006-2008 Senior Research Associate/Adjunct Professor, University of Tulsa, Tulsa, USA

2003-2006 Research Associate, University of Tulsa, Tulsa, USA

2002-2003 Self-employed engineering consultant, Dan Technology, Calgary, Canada

1990-1995 Process Engineer, National Chemical Corporation, Addis Ababa, Ethiopia

PEER-REVIEWED JOURNAL PUBLICATIONS

- [1] Elgaddafi, R., Ahmed, R., and Shah, S. 2021. The Effect of Fluid Flow on CO₂ Corrosion of High-Strength API Carbon Steels. *Journal of Natural Gas Science and Engineering*, 103739.
- [2] Awad, M., Hussein, I.A., Nasser, M.S, Karami, H., Ahmed, R. 2021. CFD modeling of particle settling in drilling fluids: Impact of Fluid Rheology and Particle Characteristics. *Journal of Petroleum Science and Engineering*, Volume 199, 108326.
- [3] Obisesan, O., Ahmed, R., Amani, M. 2021. The Effect of Salt on Stability of Aqueous Foams. *Energies*, 14, 2, 279, MDPI, <https://doi.org/10.3390/en14020279>.

- [4] Elgaddafi, R. M., Ahmed, R.M. and Samuel, O. 2021. Modeling and experimental study on the effects of temperature on the corrosion of API carbon steel in CO₂-Saturated environment. *Journal of Petroleum Science and Engineering*, Volume 196, January 2021, 107816.
- [5] Li, Y., Dong, S., Ahmed, R. Zhang, L. and Han, B. 2020. Improving the mechanical characteristics of well cement using botryoid hybrid nano-carbon materials with proper dispersion. *Construction and Building Materials*, Available online 12 November 2020, 121464.
- [6] Theurer, J., Ajagbe, O., Osorio, J., Elgaddafi, R., Ahmed, R., Walters, K. and Abbott, B. 2020. Removal of Residual Oil from Produced Water Using Magnetic Nanoparticles. *SPE-199466-PA*, *SPE Journal* Volume 25 Issue 05, doi.org/10.2118/199466-PA.
- [7] Kiran, R., Elgaddafi, R., Ahmed, R., Salehi, S., Griffith, C.A. and Fajemidupe, T. 2020. Wellbore fluid sonic conditions during blowouts. *Journal of Petroleum Science and Engineering*, Volume 195, December 2020, 107822.
- [8] Elgaddafi, R., Ahmed, R. and Shah, S. 2020. Corrosion of carbon steel in CO₂ saturated brine at elevated temperatures. *Journal of Petroleum Science and Engineering*, Volume 196, January 2021, 107638.
- [9] Li, Y., Ahmed, R., Han, B., Lu, Y. and Jin, Y. 2020. Chemo-mechanical composite layer model for CO₂-attacked cement. *Construction and Building Materials*, Volume 252, 20 August 2020, 119128.
- [10] Govindu, A., Ahmed, R., Shah, S. and Amani, M. 2020. The Effect of Inclination on the Stability of Foam Systems in Drilling and Well Operations, *SPE-199821-PA*, *SPE Drilling & Completion*, Volume Preprint Issue Preprint.
- [11] Akita, E., Dyer, F., Drummond, S., Elkins, M., Duggan, P., Ahmed, R. Florence, F. 2020. Directional Drilling Automation Using a Laboratory-Scale Drilling Rig: *SPE University Competition*. *SPE Drilling & Completion* Volume Preprint Issue Preprint, <https://doi.org/10.2118/199640-PA>.
- [12] Pandya, S. Ahmed, R. and Shah, S. 2019. Wellbore Cleanout in Inclined and Horizontal Wellbores – The Effects of Flow Rate, Fluid Rheology, and Solids Density. Paper *SPE-194240-PA*, *SPE Drilling & Completion*, Volume 35 Issue 01.
- [13] Omojuwa, E. and Ahmed, R. 2020. Analytical modeling of axial oscillation-supported drillstrings in high-angle wells. *Journal of Petroleum Science and Engineering*, Volume 191, August 2020, 107139.
- [14] Govindu, A., Ahmed, R., Shah, S. and Amani, M. 2019. Stability of foams in pipe and annulus, *Journal of Petroleum Science and Engineering*, Volume 180, September 2019, Pages 594-604.
- [15] Mahmoud, H., Hamza, A., Nasser, M.S., Hussein, I. A., Ahmed, R. and Karami, H. 2020. Hole cleaning and drilling fluid sweeps in horizontal and deviated wells: Comprehensive review. *Journal of Petroleum Science and Engineering*, Volume 186, March 2020, 106748.
- [16] Li, Y., Lu, Y., Ahmed, R. Han, B. and Jin, Y. 2019. Nonlinear Stress-Strain Model for Confined Well Cement. *Materials* 2019, 12(16), 2626; <https://doi.org/10.3390/ma12162626>.
- [17] Srivastava, A., Ahmed, R. and Shah, S. 2019. Carbonic Acid Resistance of Hydroxyapatite Based Cement. Paper *SPE-193585-PA*, *SPE Drilling & Completion*, Vol. 35, July, <https://doi.org/10.2118/193585-PA>.
- [18] Sinha, V., Ahmed, R., Akhtar, T.F., Shah, S. and Amani, M. 2019. Rheology and hydraulics of polymer-based foams at elevated temperatures, *Journal of Petroleum Science and Engineering*, Volume 180, September 2019, Pages 330-346.
- [19] Patel, H., Salehi, S., Ahmed, R. and Teodoriu, C. 2019. Review of elastomer seal assemblies in oil & gas wells: Performance evaluation, failure mechanisms, and gaps in industry standards. *Journal of Petroleum Science and Engineering*, Volume 179, August 2019, Pages 1046-1062.

- [20] Omojuwa, E., Ahmed, R. and Acquaye, J. 2019. Practical Approach to Functional Testing and Analytical Modeling of Axial Oscillation-Supported Drillstrings, *Journal of Energy Resources Technology*, ASME, doi:10.1115/1.4043245.
- [21] Pandya, S., Ahmed, R. and Shah, S. 2019. Experimental Study on Wellbore Cleanout in Horizontal Wells, *Journal of Petroleum Science and Engineering*, Volume 177, June 2019, Pages 466-478.
- [22] Salehi, S., Ezeakacha, C., Kwatia, G., Ahmed, R. and Teodoriu, C. 2019. Performance verification of elastomer materials in corrosive gas and liquid conditions, *Polymer Testing*, Vol. 75, May, Pages 48-63.
- [23] Patel, H., Salehi, S., Teodoriu, C. and Ahmed, R. 2019. Performance evaluation and parametric study of elastomer seal in conventional hanger assembly, *J. of Petroleum Science and Engineering*, 175, 246-254.
- [24] Patel, H. Shah, S., Ahmed, R. 2018. Effects of nanoparticles and temperature on heavy oil viscosity, *Journal of Petroleum Science and Engineering*, Vol 167, Pages 819-828.
- [25] Srivastava, A., Ahmed, R. and Shah, S. 2018. Effects of magnesium oxide on carbonic acid resistance of oil well cement, *Journal of Petroleum Science and Engineering*, Vol. 170, Pages 218-230.
- [26] Fakoya, F. and Ahmed, R. 2018. A generalized model for apparent viscosity of oil-based muds, *Journal of Petroleum Science and Engineering*, Vol. 165, Pages 777-785.
- [27] Hwang, J., Ahmed, R.M., Tale, S. and Shah, S. 2018. Shear bond strength of oil well cement in carbonic acid environment, *Journal of CO₂ Utilization*, Vol. 27, 60-72.
- [28] Akhtar, T.F., Ahmed, R., Elgaddafi, R., Shah, S. and Amani, M. 2018. Rheological behavior of aqueous foams at high pressure. *Journal of Petroleum Science and Engineering*, Vol. 162, 214–224.
- [29] Rojas, S., Ahmed, R.M., Elgaddafi, R. and George, M. 2017. Flow of power-law fluid in a partially blocked eccentric annulus, *Journal of Petroleum Science and Engineering*, Volume 157, 617-630.
- [30] Elgaddafi, R., Ahmed, R.M., Shah, S.N. 2017. Modeling and experimental studies on CO₂-H₂S corrosion of API carbon steels under high-pressure, *Journal of Petroleum Science and Engineering*, Vol. 156, 682-696.
- [31] Omosebi, O., Maheshwari, H., Ahmed, R. M., Shah, S. N., Osisanya, S. 2017. Experimental study of the effects of CO₂ concentration and pressure at elevated temperature on the mechanical integrity of oil and gas well cement. *Journal of Natural Gas Science and Engineering*, 44, 299-313.
- [32] Elgaddafi, R., Ahmed, R. and Growcock, F. 2016. Settling Behavior of Particles in Fiber-Containing Herschel Buckley Fluid, *Powder Technology*, Volume 301, November 782–793.
- [33] Tang, M., Ahmed, R., Srivastav, R and He, S. 2016. Simplified Surge Pressure Model for Yield Power Law Fluid in Eccentric Annuli, *Journal of Petroleum Science and Engineering*, Volume 145, 346–356.
- [34] Tang, M., Ahmed, R. and He, S. 2016. Modeling of yield-power-law fluid flow in a partially blocked concentric annulus, *Journal of Natural Gas Science and Engineering*, Volume 35, Part A, 555–566.
- [35] Sherif, T., Ahmed, R., Shah, S. and Amani, M. 2016. Rheological correlations for oil-based drilling foams, *Journal of Natural Gas Science and Engineering*, Volume 35, Part A, September, 1249–1260.
- [36] Omosebi, O., Maheshwari, H., Ahmed, R. M., Shah, S. N., Osisanya, S., Hassani, S., DeBruijn, G., Cornell, W. and Simon, D. 2016. Degradation of well cement in HPHT acidic environment: Effects of CO₂ concentration and pressure, *Cement and Concrete Composites* 74, November, DOI: 10.1016/j.cemconcomp.2016.09.006.
- [37] Elgaddafi, R., Ahmed, R.M., Shah, S.N. 2016. Modeling CO₂-H₂S Corrosion of Tubular at Elevated Pressure and Temperature, *Research Journal of Applied Sciences, Engineering and Technology* 13(7):510-524, DOI: 10.19026/rjaset.13.3011.

- [38] Elgaddafi, R., Ahmed, R.M., Hassani, S., Shah, S.N., Osisanya, S.O. 2016. Corrosion of C110 Carbon Steel in High-Pressure Aqueous Environment with Mixed Hydrocarbon and CO₂ Gas, *Journal of Petroleum Science and Engineering*, Volume 146, October, 777–787.
- [39] He, S., Srivastav, R., Tang, M. and Ahmed, R. 2016. A New Simplified Surge and Swab Pressure Model for Yield-Power-Law Drilling Fluids, *Journal of Natural Gas Science and Engineering*, Volume 28, January 2016, Pages 184–192.
- [40] Omosebi, O., Maheshwari, H., Ahmed, R. M., Shah, S. N., Osisanya, S., Santra, A., Saasen, A. 2015. Investigating temperature effect on degradation of well cement in HPHT carbonic acid environment. *Journal of Natural Gas Science and Engineering*, 26, 1344–1362.
- [41] Elgaddafi, R., Naidu, A., Ahmed, R. M., Shah, S. N., Hassani, S., Osisanya, S. O., Saasen, A. 2015. Modeling and experimental study of CO₂ corrosion on carbon steel at elevated pressure and temperature. *Journal of Natural Gas Science and Engineering*, 27, 1620–1629.
- [42] Sherif, T., Ahmed, R., Shah, S. and Amani, M. 2015. Rheological behavior of oil-based drilling foams, *Journal of Natural Gas Science and Engineering*, Volume 26, September, Pages 873–882.
- [43] Hashemian, Y., Yu, M., Miska, S, Shirazi, S and Ahmed, R. 2014. Accurate Predictions of Velocity Profiles and Frictional Pressure Losses in Annular YPL Fluid Flow, *Journal of Canadian Petroleum Technology*, Vol. 53, No. 6, November.
- [44] George, M., Elgaddafi, R., Ahmed, R., and Growcock, F. 2014. Performance of Fiber-Containing Synthetic-Based Sweep Fluids, *Journal of Petroleum Science and Engineering*, Vol. 119, July, Pages 185–195.
- [45] Liu, D., Wu, X. and Ahmed, R. 2014. New silicate hydrogel with more elasticity as in-situ water diversion system: preparation and investigation of rheological and pugging behaviors, *Int. J. of Oil, Gas and Coal Technology*, Vol. 7, No.3 pp. 263 – 274.
- [46] Podryabinkin, E., Tarasevich, V., May R. and Ahmed, R. 2014. Modelling and Evaluating Surge Pressure while Tripping in a Borehole, *OIL GAS European Magazine*, Vol. 40, Num. 1, Pages 21-23.
- [47] Enfis, M., Ahmed, R. and Osisanya, S. 2013. New Hydraulic Model for Flow of Herschel-Buckley Fluid in Pipes and Annuli, *Canadian Energy Technology & Innovation*, Vol. 1, Num. 3, Pages 41-47.
- [48] Crespo, F. and Ahmed, R. 2013. A simplified surge and swab pressure model for yield power law fluids, *Journal of Petroleum Science and Engineering*, Volume 101, January, Pages 12–20.
- [49] Crespo, F., Ahmed, R. Enfis, M., Saasen, A. and Amani, M. 2012. Surge-and-Swab Pressure Predictions for Yield-Power-Law Drilling Fluids, paper SPE 138938-PA, *SPE Drilling & Completion*, Volume 27, Number 4, December, Pages 574-585.
- [50] Elgaddafi, R., Ahmed, R., George, M. and Growcock, F. 2012. Settling behavior of spherical particles in fiber-containing drilling fluids, *Journal of Petroleum Science and Engineering*, Volumes 84–85, April 2012, Pages 20–28.
- [51] Nguyen, T., Miska, S., Yu, M., Takach, N., Ahmed, R., Saasen, A., Omland, T.H. and Maxey, J. 2011. Experimental Study of Dynamic Barite Sag in Oil-Based Drilling Fluids Using a Modified Rotational Viscometer and a Flow Loop, *Journal of Petroleum Science and Engineering*, Volume 78, Issue 1, July, Pages 160-165.
- [52] Majidi, R., Miska, S.Z., Ahmed, R.M, Yu, M. and Thompson, L.G. 2010. Radial flow of yield-power-law fluids Numerical analysis, experimental study and the application for drilling fluid losses in fractured formations, *Journal of Petroleum Science and Engineering*, Vol. 70, Issues 3-4, February 2010, Pages 334-343.

- [53] Mingqin, D., Miska, S., Yu, M., Takach, N. and Ahmed, R.M. and Hallman, J. 2010 Experimental Study and Modeling of Cuttings Transport Using Foam with Drillpipe Rotation, SPE Drilling & Completion Volume 25, Number 3, September 2010, Pages 352-362.
- [54] Zhou, L., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M. and Saasen, A. 2010. Hydraulics of Drilling with Aerated Muds under Simulated Borehole Conditions, J. Energy Resour. Technol. 132, 011002.
- [55] Ahmed, R. M., Takach, N. E., Khan, U. M, Taoutaou, S., James, S., Saasen, A. and Godøy, R. 2009. Rheology of Foamed cement, Cement and Concrete Research, Volume 39, Issue 4, Pages 353-361.
- [56] Ahmed, R.M. and Takach, N.E. 2009. Fiber Sweeps for Hole Cleaning, paper SPE 113746, SPE Drilling & Completion, Vol. 24, Num. 4, December, Pages 564-573.
- [57] Rafatian, N., Miska, S., Ledgerwood III, L.W., Ahmed, R.M. and Yu, M. and Takach, N. 2009. Experimental Study of MSE of a Single PDC Cutter under Simulated Pressurized Conditions, SPE Drilling & Completion, Vol. 25, Num. 1, March, Pages 10-18.
- [58] Mingqin, D., Miska, S., Yu, M., Takach, N., Ahmed, R. and Zettner, C. 2009. Critical Conditions for Effective Sand-Sized Solids Transport in Horizontal and High-Angle Wells, Journal SPE Drilling & Completion, Volume 24, Num. 2, Pages 229-238
- [59] Chen, Z., Duan, M., Miska, S.Z., Yu, M., Ahmed, R.M. and Hallman, J. 2009. Hydraulic Predictions for Polymer-Thickened Foam Flow in Horizontal and Directional Wells, paper SPE 105583, Journal SPE Drilling & Completion, Volume 24, Number 1, Pages 40-49.
- [60] Mingqin, D., Miska, S., Yu, M., Takach, N., Ahmed, R.M. and Zettner, C. 2008. Transport of Small Cuttings in Extended Reach Drilling, SPE Drilling & Completion, Volume 23, Number 3.
- [61] Chen, Z., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M., Pickell, M.B. and Hallman, J. 2007. Experimental Study on Cuttings Transport With Foam under Simulated Horizontal Downhole Conditions, SPE Drilling & Completion, Volume 22, Number 4.
- [62] Chen, Z., Ahmed, R.M., Miska, S., Takach, N.E., Yu, M., Pickell, M.B. 2007 Rheology and Hydraulics of Polymer (HEC) – Based Drilling Foams at Ambient Temperature Conditions, SPE Journal, Vol. 12, Num. 1.
- [63] Capo, J., Yu, M., Miska, S.Z., Takach, N. E. and Ahmed, R.M. 2006. Cuttings Transport with Aqueous Foam at Intermediate Inclined Angles, SPE Drilling and Completion, Vol. 21, Num. 2.
- [64] Ahmed, R.M., Skalle, P., and Saasen, A. 2005. Application of a three-layer model for solids transportation in inclined channels, Journal of Chemical Engineering Science, Vol. 60, Issue 10, Pages 2557-2570.
- [65] Ahmed, R.M., Saasen, A. and Skalle, P. 2004. Application of the minimum transport velocity model (MTV) for drag reducing polymers, Journal of Petroleum Science and Engineering, Vol. 44, Pages 303-316.
- [66] Ahmed, R.M., Skalle, P. and Johansen, S.T. 2003. A mechanistic model to determine the critical flow velocity required to initiate the movement of spherical bed particles in inclined channels. Journal of Chemical Engineering Science, Vol. 58, 2153 –2163.
- [67] Ahmed, R.M., Skalle, P., Johansen, S.T., Sveen, J. & Saasen, A. 2001. Mechanistic model for cuttings removal from solid bed in inclined channels, Journal of Petroleum Science and Engineering, Vol. 30, Pages 129-141.

CONFERENCE PROCEEDINGS

- [68] Abhishek Govindu, Ramadan Ahmed, Subhash Shah, and Mahmood Amani. 2020. Foam Stability in Inclined Wells. Paper AADE-20-FTCE-016 presented at the 2020 AADE Fluids Technical Conference.

- [69] Elgaddafi, R., Kiran, R., Ahmed, R., Salehi, S., Griffith, C. 2020. Development of a Computational Tool for Worst-Case Discharge Rate. Paper SPE-201722-MS presented virtually at the SPE ATCE 2020, 26-29 October.
- [70] Elgaddafi, R. and Ahmed, R. 2020. Fibrous Cleanout Fluids in Horizontal and Inclined Wells. Paper SPE-199868-MS, SPE/ICoTA Conference, 24-25 March, <https://doi.org/10.2118/199868-MS>.
- [71] Pingo, A., Soriano, V.H., Villanueva, J., Jimenez, E., Vasquez, E. and Ahmed, R. 2020. Reaching Better Zonal Isolation by Continuous Improvement: A Case Study of Northwestern Onshore, Peru. Paper SPE-199054-MS, Society of Petroleum Engineers, <https://doi.org/10.2118/199054-MS>.
- [72] Pingo, A., Vera, C., Soriano, V.H., Villanueva, J., Ahmed, R., Poma, J. H., Paredes, J.L. 2020. Well Cementing in an Abnormal Pressure Zone of the Talara Basin: Overcoming Engineering Challenges. Paper SPE-199075-MS presented at the SPE Latin American and Caribbean Petroleum Engineering Conference, 27-31 July. <https://doi.org/10.2118/199075-MS>.
- [73] Ahmed, S., Patel, H. Salehi, S. Teodoriu, C. and Ahmed, R. 2020. Numerical and experimental evaluation of liner dual barrier system in geothermal wells. Paper presented at the 45th Workshop on Geothermal Reservoir Engineering, Stanford University, February, Pages 10-12.
- [74] Phi, T., Elgaddafi, R., Ramadan, M.A., Ahmed, A. and Teodoriu, C. 2020. Well Integrity Issues: Extreme High-Pressure High-Temperature Wells and Geothermal Wells (a Review). Paper SPE-198687-MS presented at the SPE Thermal Well Integrity and Design Symposium, DOI: 10.2118/198687-MS.
- [75] Bohorquez A. M., Soriano, V.H. A, M.A. Quispe, A., Ponce, J.R., Harada, J.A. and Ahmed, R. 2018. Effective Stick-Slip Mitigation System Allowed Smother Downhole Dynamics While Drilling an Exploratory Well in the Peruvian Amazon: Experience and Lessons Learned, Paper EXPL-CP-OB-14-N, presented at the IX INGEPET 2018, 1-4 October, Lima, Peru.
- [76] Wiechman, A. and Ahmed, R. 2018. Hydraulic Force Modeling of Radial Jet Drilling, Paper AADE-18-FTCE-008 presented at the 2018 AADE Fluids Technical Conference and Exhibition held at the Hilton Houston North Hotel, Houston, Texas, April 10-11.
- [77] Bavadiya, V.A., Alsaihati, Z.A. and Ahmed, R.M. 2017. Experimental Investigation of the Effects of Rotational Speed and Weight on Bit on Drillstring Vibrations, Torque and Rate of Penetration. Paper SPE-188427-MS presented at the Abu Dhabi International Petroleum Exhibition & Conference, Abu Dhabi.
- [78] Omosebi, O., Ahmed, R. M., Shah, S. N., Osisanya, S. 2017. Mechanisms of Cement Degradation in HPHT Carbonic Acid Environment. Paper SPE- 184567-MS presented at the SPE International Conference on Oilfield Chemistry, Houston, Texas.
- [79] Omosebi, O., Sharma, M. Ahmed, R. M., Shah, S. N., Saasen, A. and Osisanya, S. 2017. Cement Degradation in CO₂-H₂S Environment under High Pressure-High Temperature Conditions. Paper SPE-185932-MS presented at the SPE Bergen One Day Seminar, Bergen, Norway.
- [80] Srivastav, R., Ahmed, R. and Saasen, A. 2017. Experimental Study and Modeling of Surge and Swab Pressures in Horizontal and Inclined Wells. Paper AADE-17-NTCE-075, presented at the AADE Fluids Technical Conference and Exhibition, April 12-April 14, Houston, Texas, USA.
- [81] Laguna, V., Hinojosa, E., Soriano, V. and Ahmed, R. 2017. BHA Dynamics Simulation and Field Validation: Experience in the Peruvian Amazon. Paper presented at the Colombian Congress of Petroleum organized by ACIPET, Bogota, Colombian.
- [82] Sherif, T., Ahmed, R., Shah, S. and Amani, M. 2016. Rheology of Oil-Based Drilling Foams. Paper 41552, Paper AADE-16-FTCE-81, presented at the AADE Fluids Technical Conference and Exhibition, April 12-April 14, Houston, Texas, USA.

- [83] Soriano Arambulo, V., Estrada Vera, E., Ascencios Alban, E., Castaneda Mikriukova, E., Poclin, H., Perez Perez, V., Ahmed, R. M. 2015. Application of Cuttings Reinjection Technology Eliminated Environmental Liabilities in a Remote and Mature Field in Peru, Paper SPE-177205-MS, presented at the SPE Latin American and Caribbean Petroleum Engineering Conference, 18-20 November, Quito, Ecuador.
- [84] Arambulo, V., Colque, J., Alban, E., Ahmed, R. M. 2015. Case Studies Validate the Effectiveness of Aluminum-based HPWBM in Stabilizing Micro-Fractured Shale Formations: Field Experience in the Peruvian Amazon, Paper SPE-174854-MS, Presented at the SPE Annual Technical Conference and Exhibition, 28-30 September, Houston, Texas, USA.
- [85] Bavadiya, V., Aljubran M., Kibe J.M., Christy S.M., Le H.N., Ahmed R. and Florence, F. Design, Construction and Operation of an Automated Drilling Rig for the DSATS University Competition, Paper SPE-174920-MS, Presented at the SPE Annual Technical Conference and Exhibition, 28-30 September, Houston, Texas, USA.
- [86] Omosebi, O., Ahmed, R. M., Shah, S. N., Osisanya, S. 2015. Mechanical Integrity of Well Cement Under Geologic Carbon Sequestration Conditions, Paper CMTC-439562-MS, presented at Carbon Management Technology Conference, 17-19 November, Sugar Land, TX. USA.
- [87] Sherif, T., Ahmed, R., Shah, S. and Amani, M. 2015. Rheological and Wall-Slip Behaviors of Polymer Based Drilling Foams. Paper 41552, presented at the Proceedings of the ASME 2015 34th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2015), May 31-June 5, 2015, St. John's, Newfoundland, Canada.
- [88] Omojuwa, E., Osisanya, S. and R. Ahmed. 2014. Influence of Dynamic Drilling Parameters on Axial Load and Torque Transfer in Extended Reach Horizontal Wells, paper SPE-170672-MS, presented at the SPE Annual Technical Conference and Exhibition (ATCE), 27–29 October, Amsterdam, The Netherlands.
- [89] Omosebi, O., Osisanya, S.O. and Ahmed, R. 2014. Integrated Model-Based Approach to Drilling Project Management, paper SPE-172391-MS presented at the SPE Nigeria Annual International Conference and Exhibition, 5-7 August, Lagos, Nigeria.
- [90] Podryabinkin, E., Tarasevich, V., Ahmed, R. and May R. 2014. Evaluation of Pressure Change While Steady-State Tripping, Proceedings of the ASME 33rd International Conference on Ocean, Offshore and Arctic Engineering, June 8-13, San Francisco, USA.
- [91] Stalford, H.L., Ahmed, R.M. and Soriano V.H. 2014. Intelligent Casing-Intelligent Formation (ICIF) Design, paper OTC-25161 presented at the Offshore Technology Conference, 5 – 8 May, Houston, TX.
- [92] Podryabinkin, E., Tarasevich, V., May, R. and Ahmed, R. 2013. Modeling and evaluating surge pressure while tripping in a Borehole, paper presented at the International Conference and Exhibition for Advanced Drilling Technology, 9-10 September, Celle, Germany.
- [93] Omojuwa, E. and Osisanya, S. and Ahmed, R. 2012. Computation of Axial Load and Torque Distribution in Tubulars Used for Extended-Reach Horizontal Wells Using A Holistic Design Philosophy, SPE paper 161076-MS presented at the Abu Dhabi International Petroleum Conference and Exhibition, 11-14 November 2012, Abu Dhabi, UAE.
- [94] Omojuwa, E., Osisanya, S. and Ahmed, R. 2012. Integrated Dynamic Analysis for Optimal Axial Load and Torque Transfer in BHAs Used for Extended-Reach Horizontal Wells, SPE paper 161064-MS presented at the SPE Eastern Regional Meeting, 3-5 October, Lexington, Kentucky, USA.
- [95] Srivastav, R., Enfis, M., Crespo, F., Ahmed, R., Saasen, A. and Laget, M. 2012. Surge and Swab Pressures in Horizontal and Inclined Wells, paper SPE 152662-MS, presented at the SPE Latin America and Caribbean Petroleum Engineering Conference, 16-18 April, Mexico City, Mexico.

- [96] Omojuwa, E., Osisanya, S. and Ahmed, R. 2012. Measuring and Controlling Torsional Vibrations and Stick Slip in a Viscous Damped Drillstring Model, paper IPTC-14241-PP, presented at the International Petroleum Technology Conference (IPTC), 7-9 February, Bangkok, Thailand.
- [97] Parvizinia, A., Ahmed, R. and Osisanya, S 2012. Experimental Study on the Phenomenon of Barite Sag, paper IPTC-14944-PP, presented at the International Petroleum Technology Conference (IPTC), 7-9 February, Bangkok, Thailand.
- [98] Omojuwa, E., Osisanya, S., and Ahmed, R. 2011. Dynamic Analysis of Stick-Slip Motion of Drillstring While Drilling, SPE NAICE, 31 July – 4, August, Abuja, Nigeria.
- [99] Omojuwa, E.O., Osisanya, S.O. and Ahmed, R. 2011. Properties of Salt Formations Essential for Modeling Instabilities While Drilling, SPE paper 150801-MS, presented at the Nigeria Annual International Conference and Exhibition, 30 July - 3 August, Abuja, Nigeria.
- [100] Enfis, M., Ahmed, R.M. and Saasen, A. 2011. The Hydraulic Effect of Tool-joint on Annular Pressure Loss, paper SPE-142282, presented at the SPE Production and Operations Symposium, 27-29 March 2011, Oklahoma City, Oklahoma, USA (Highlights presented by Dennis Denney, Technology Editor, JPT, February 2012, Page 56-59).
- [101] George, M., Ahmed, R. and Growcock, F. 2011. Rheological Properties of Fiber-Containing Drilling Sweeps at Ambient and Elevated Temperatures, paper AADE-11-NTCE-35, presented at the AADE National Technical Conference and Exhibition, Houston, Texas, April 12-14.
- [102] Ahmed, R., Enfis, M., Miftah-El-Kheir, H., Laget, M., Saasen, A. 2010. The Effect of Drillstring Rotation on Equivalent Circulation Density Modeling and Analysis of Field Measurements, paper SPE 135587, presented at the SPE Annual Technical Conference and Exhibition, 19-22 September 2010, Florence, Italy.
- [103] Ahmed, R., Sagheer, M., Takach, N., Majidi, R., Yu, M., Miska, S., Rohart, C. and Boulet, J. 2010. Experimental Studies on the Effect of Mechanical Cleaning Devices on Annular Cuttings Concentration and Applications for Optimizing ERD Systems, paper SPE 134269, presented at the SPE Annual Technical Conference and Exhibition, 19-22 September, Florence, Italy.
- [104] Singh, S. and Ahmed, R. 2010. Vital Role of Nanopolymers in Drilling and Stimulation Fluid Applications, paper SPE 130413, presented at the SPE Annual Technical Conference and Exhibition, 19-22 September, Florence, Italy.
- [105] Omojuwa, E., Okoye, E., Ousseni, A., Odunuga, A., Osisanya, S., and Ahmed, R. 2010. Understanding the Influence of Rock Stresses on Wellbore Inclination in Salt Formations: A Well Planning Approach. Presented at the 34th Annual SPE Int. Technical Conference and Exhibition in Tinapa-Calabar, Nigeria; July 31 - August 7.
- [106] Nguyen, T. N., Miska, S.Z., Yu, M., Takach, N.E., Ahmed, R.M. 2010. Experimental Study of Hydraulic Sweeps in Horizontal Wells. International Oil-Gas AGH Conf., May, Zakopane, Poland.
- [107] Ahmed, R.M., Smith, J.R., Bohorquez, V.B. and Koederitz, W.L. 2010 Novel Applications of Drilling Simulators in Student Recruitment, Teaching and Research Programs. Paper IADC/SPE 128296 presented at IADC/SPE Drilling Conference and Exhibition, 2-4 February, New Orleans, LA.
- [108] Ahmed, R.M., Takach, N.E. and Savitri, M. 2009. Experimental Study on Fiber Sweeps in Horizontal and Highly Deviated Configurations, Paper SPE 120644, presented at the SPE Production and Operations Symposium, 4-8 April, Oklahoma City.
- [109] Nguyen, T., Miska, S., Yu, M., Takach, N., Ahmed, R.M., Saasen, A. Omland, T.H. and Maxey, J. 2009. Combined Effects of Eccentricity and Pipe Rotation on Dynamic Barite Sag – Analysis the Different

- Impacts of Pipe Rotation in a Flow Loop & Rotation in a Modified Rotational Viscometer on Barite Sag, AADE National Technical Conference & Exhibition, New Orleans, March 31 – April 2.
- [110] Mingqin, D., Miska, S., Yu, M., Takach, N. and Ahmed, R.M. and Hallman, J. 2008. The Effect of Drillpipe Rotation on Pressure Losses and Fluid Velocity Profile in Foam Drilling, Paper SPE 114185, presented at the SPE Western Regional and Pacific Section AAPG Joint Meeting, 29 March-2 April, Bakersfield.
- [111] Ahmed, R.M. and Miska, S.Z. 2008. Experimental Study and Modeling of Yield Power-Law Fluid Flow in Annuli with Drillpipe Rotation, paper IADC/SPE 112604, presented at the IADC/SPE Drilling Conference in Orlando, Florida, 4–6 March.
- [112] Mingqin, D., Miska, S., Yu, M., Takach, N. and Ahmed, R.M. and Zettner, C. 2007. Critical Conditions for Effective Sand-Sized Solids Transport in Horizontal and High-Angle Wells, Paper SPE 106707, presented at the Production and Operations Symposium, 31 March-3 April, Oklahoma City.
- [113] Valluri, S.G., Miska, S.Z., Ahmed, R.M., Yu, M. and Takach, N.E. 2006. Experimental Study of Effective Hole Cleaning Using “Sweeps” in Horizontal Wellbores, paper SPE 101220, presented at the SPE Annual Technical Conference and Exhibition, 24–27 September, San Antonio.
- [114] Ahmed, R.M., Miska, S.Z. and Miska, W.Z. 2006. Friction Pressure Loss Determination of Yield Power Law Fluid in Eccentric Annular Laminar Flow, *Wiernictwo Nafta Gaz*, Vol. 23, Krakow, Poland.
- [115] Chen, Z., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M., Pickell, M.B. and Hallman, J. 2005 Rheology of Aqueous Drilling Foam Using a Flow-through Rotational Viscometer, paper SPE 93431, presented at the SPE International Symposium on Oilfield Chemistry, Houston, 2 – 4 February.
- [116] Chen, Z., Ahmed, R.M., Miska, S., Takach, N.E., Yu, M., Pickell, M.B., Saasen, A. 2005. Rheology Characterization of Polymer Drilling Foams Using a Novel Apparatus, *Annual Transactions of the Nordic Rheology Society*, Vol. 13.
- [117] Zhou, L., Ahmed, R.M., Miska, S., Takach, N.E., Yu, M., Pickell, M.B. 2005. Measurement of In-Situ Cuttings Concentration Using Nuclear Densitometers in a Horizontal Annulus at Simulated Downhole Conditions, paper SPE 94261, presented at the SPE Production and Operations Symposium held in Oklahoma City, Oklahoma, 17-19 April.
- [118] Zhou, L., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M. and Saasen, A. 2005. Hydraulics of Drilling with Aerated Muds under Simulated Borehole Conditions, paper SPE 92484, presented at the SPE/IADC Drilling Conference, Amsterdam, The Netherlands, 23-25 February.
- [119] Zhou, L., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M. and Pickell, M.B. 2004. Experimental Study and Modeling of Cuttings Transport with Aerated Mud in Horizontal Wellbore at Simulated Downhole Conditions, paper SPE 90038, presented at the SPE Annual Technical Conference and Exhibition held in Houston, 26-29 September.
- [120] Yu, M., Melcher, D., Takach, N., Miska, S.Z. and Ahmed, R.M. 2004. New Approach to Improve Cuttings Transport in Horizontal and Inclined Wells, SPE paper 90529, presented at the SPE Annual Technical Conference and Exhibition held in Houston, 26-29 September.
- [121] Zhou, L., Ahmed, R.M., Miska, S.Z., Takach, N.E., Yu, M. and Pickell, M.B. 2004. Experimental Study of Aerated Mud Flows under Borehole Conditions,” paper SPE 89531, presented at the Coiled Tubing Conference, Houston, March 23-24.
- [122] Ahmed, R.M., Saasen, A. and Kuru, E. 2003. Mathematical Modeling of Drilling Foam Flows, presented at the CADE/CAODC drilling conference, Calgary, October 20-22.
- [123] Ahmed, R.M., Saasen, A. and Kuru, E. 2003. Critical Review of Foam Rheology. *Annual Trans. of the Nordic Rheology Society*, Vol. 11.

- [124] Ahmed, R.M., Saasen, A. and Skalle, P. 2001. Application of Shear-induced Diffusivity in Solid Particle Transportation: Experimental and Modeling, Annual Transactions of the Nordic Rheology Society, Vol. 9, Pages 23-30.

BOOK CHAPTERS

- [125] George, M., Ahmed, R. and Growcock, F. 2012. Stability and Flow Behavior of Fiber-Containing Drilling Sweeps, Rheology, InTech, Rijeka, Croatia, ISBN: 978-953-51-0187-1, <http://www.intechopen.com/books/rheology/stability-and-flow-behavior-of-fiber-containing-drilling-sweeps>.
- [126] Ahmed, R.M. and Miska, S.Z. 2009. Drilling Hydraulics: Advanced Drilling and Well Technology, Edited by: Aadnoy, B.; Cooper, I.; Miska, S.; Mitchell, R.F.; Payne, M.L., Society of Petroleum Engineering, Chap 4.1, 191-220.
- [127] Ahmed, R.M. and Miska, S.Z. 2009. Foam Drilling: Advanced Drilling and Well Technology, Edited by: Aadnoy, B.; Cooper, I.; Miska, S.; Mitchell, R.F.; Payne, M.L., Society of Petroleum Engineering, Chap 4.3, 248-299.

REPORTS

- [128] Salehi, S. Ahmed, R. Elgaddafi, R. and Kiran R. 2018. Research and Development on Critical (Sonic) Flow of Multiphase Fluids through Wellbores in Support of Worst-Case-Discharge Analysis for Offshore Wells, Leakage Modelling and Risk Assessment, Bureau of Ocean Energy Management Project NO: M16PS00059.
- [129] Salehi, S., Ahmed, R., Teodoriu, C., Patel, H. and Ezeakacha, C. 2018. Studying “Fitness For Service” of the Sealing Assemblies and Cement System in Shallow Well Designs by Conducting Scaled Laboratory Testing, Leakage Modelling And Risk Assessment, BSEE Project NO: E17PC00005.
- [130] Ahmed, R., Shah, S., Osisanya, S. et al. 2015. Effect of H₂S and CO₂ in HP/HT Wells on Tubulars and Cement, Final Report to BSEE, Contract No. E12PC00035.
- [131] Stalford, H., Ahmed, R., Edwards, J., Soriano, V. and Friesenhahn, J. 2015. Intelligent Casing-Intelligent Formation Telemetry (ICIFT) System, Final Report to BSEE, Contract Number: 10121-4504-01, February 4.
- [132] Ahmed, R. 2012. Fiber-containing Sweep Fluids for Ultra-Deepwater Drilling Applications, Final Report to RPSEA, Contract No. 08121-2902-7, March, <http://www.rpsea.org> (Highlights presented by James Pappas, RPSEA VP for Deepwater Program, World Oil, January 2013, Vol. 234, No. 1).
- [133] Miska, S., Takach, N., Ashenayi, K., Ahmed, R., Yu, M., Pickell, M., Volk, L., Volk, M., Zhou, L., Chen, Z., Washington, A., Redden, C., Nene, S., Godugu, J. 2004. Advanced Cuttings Transport Study, Final Report, DOE Project: Award Number: DE-FG26-99BC15178, Sept 30, 2004, <http://www.osti.gov>.

GRANT FUNDING

- Development and Pilot Scale Evaluation of Fibrous Fluids Formulations for Horizontal Gas/Oil Well Cleanout, QNRF, 2020-2022, PI, \$207,000.
- Developing Advanced Lost Prevention Methods and Smart Wellbore Strengthening, DOE, 2019-2022, Co-PI, \$1,797,289.
- Oil Removal Using Magnetic Nanoparticles, McCoy Fund, 2019, PI, \$160,000.
- Advanced Study on Stability of Modern Drilling Foams, QNRF, 2018-2022, PI, \$245,000.
- Special Drilling and Production Related Projects, 2017-2020, \$200,000.
- Research and Development on Critical Flow, Co-PI, BSEE, 2018, \$400,000.
- Studying sealing assemblies and cement system, Co-PI, BSEE, 2017-2018, \$325,000.
- Coiled tubing consortium, PI, 2015 - 2016, \$180,000.
- H₂S and CO₂ in HPHT Wells on Tubulars and Cement, PI, BSEE, 2011-2014, \$1,158,373.
- Study on Rheology of Modern Drilling Foams, QNRF, 2013-2016, PI, \$332,633.
- Intelligent Casing-Intelligent Formation Telemetry, RPSEA, 2012-2013, Co-PI, \$594,935.
- Fiber Containing Sweep Fluids for Deepwater Drilling, RPSEA, PI, 2009-2011, \$150,000.
- Hydro-Mechanical Hole Cleaning Devices, VAM Drilling, PI, 2008, \$340,000.
- Microchip Downhole Instrumentation, Aramco, CO-PI, 2007-2008, \$1,209,000.
- Fiber Sweep for Hole Cleaning, Chevron, PI, 2006-2008, \$90,000.

AWARDS AND RECOGNITIONS

- Outstanding Technical Reviewer of the Year 2018, Journal of CO₂ Utilization.
- Outstanding Technical Reviewer of the Year 2017, Powder Technology.
- Outstanding Technical Reviewer of the Year 2017, Journal of Natural Gas Science and Engineering.
- Outstanding Reviewer of the Year 2011, 2012, 2017, Journal of Petroleum Science and Engineering.
- Outstanding Technical Editor, SPE Drilling & Completion, 2013.

COURSES TAUGHT

- Fluid Mechanics
- Reservoir Fluid Properties
- Well Control
- Integrated Reservoir Management (Capstone)
- Reservoir Engineering I
- Drilling Engineering I
- Advanced Drilling Engineering
- Wellbore Hydraulics
- Mathematics and Computer Programming in Petroleum Engineering

MEMBERSHIP IN ACADEMIC AND ADVISORY COMMITTEES

- Director of the Well Construction Technology Center, 09/2015 – present.
- Member of Faculty Senate, University of Oklahoma, 09/2009 – 08/2010.
- Member of Committee A, MPGE, University of Oklahoma, 09/2014 – 08/2017.
- Member of Undergraduate Committee, MPGE, University of Oklahoma, 09/2009 – 08/2017.
- Member of Graduate Committee, MPGE, University of Oklahoma, 09/2013 – 08/2017.

SERVICE - PROFESSIONAL**Associate Editor for Professional Journals**

- SPE Drilling & Completion Journal, 2015 to present.
- International Journal of Oil, Gas and Coal Technology (IJOGCT), 2014 to 2016.

Technical Reviewer for Professional Journals and Conference Proceedings

- Journal of CO₂ Utilization
- Powder Technology
- Journal of Natural Gas Science and Engineering
- Journal of Petroleum Science and Engineering
- Society of Petroleum Engineers Journals
- Journal of ASTM International
- Journal of Chemical Engineering Science
- Chemical and Biochemical Engineering Quarterly
- Industrial & Engineering Chemistry Research, ACS Paragon Plus Environment
- Journal of Energy Resource Technology
- The Open Energy and Fuels Journal
- International Journal of Oil, Gas and Coal Technology (IJOGCT)
- Journal of Manufacturing Science and Engineering
- Neural Computing & Applications
- The Petroleum Science
- Proceedings of the ASME 2013

Reviews for Funding Agencies

- National Centre of Science and Technology of Kazakhstan
- Czech Science Foundation
- The Natural Sciences and Engineering Research Council of Canada (NSERC)
- RPSEA-Research Partnership to Secure Energy for America
- Petroleum Research Fund (PRF)
- Alberta Innovates Technology Futures (AITF)

Professional Affiliations

- Member, Society of Petroleum Engineers, SPE
- Member, American Association of Drilling Engineers, AADE