

PUBLICATIONS, PATENTS AND AWARDS:

In total, Ali has 167 publications (56 journal and 111 conference papers), 100+ intellectual property contributions (61 granted patents, 16 filed patents, 42 disclosed patents), 2 text books, and 13 prestigious regional/international awards.

Granted Patents (61):

- 1) A.A. Yousef, A.O. Al-Kaabi, and S.H. Saleh; Oil recovery process for carbonate reservoirs; US Patent 8,550,163; Oct.8, 2013.
- 2) A.A. Yousef, M. Han, and S.H. Saleh; Oil recovery process for carbonate reservoirs; US Patent 8,550,164; Oct.8, 2013.
- 3) M. Han, A.A. Yousef, S.H. Saleh and A. Fuseni; Polymer-enhanced surfactant flooding for permeable carbonates; US Patent 9,284,480; Mar. 15, 2016.
- 4) M. Han, A.A. Yousef, S.H. Saleh, M.A. AlGeer, and A. Alboqmi; Method to determine trace amounts of crude oil by spectroscopic absorption; US Patent 9,297,747; Mar. 29, 2016.
- 5) A.A. Yousef and Ayirala, S.C; Smart water flooding processes for increasing hydrocarbon recovery; US Patent 10,000,687; June 19, 2018.
- 6) M. Han, A.A. Yousef, S.H. Saleh and A. Fuseni; Polymer-enhanced surfactant flooding for permeable carbonates; US Patent 10,011,760, July 3, 2018.
- 7) S.C. Ayirala, A.M. Sofi, and A. A. Yousef; Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent 10,106,726; Oct. 23, 2018.
- 8) H.T. Kwak, A.A. Yousef and S.H. Saleh; Measuring connectivity between different pore types in porous media; US Patent No. 10,156,531; Dec. 18, 2018.
- 9) S. C. Ayirala, A.M. Sofi, and A. A. Yousef; Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,287,485, May 14, 2019.
- 10) S. C. Ayirala, A.M. Sofi, and A. A. Yousef; Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs, US Patent No. 10,287,486, May 14, 2019.
- 11) H.T. Kwak, A.A. Yousef and S.H. Saleh; Absolute porosity and pore size determination of pore types in media with varying pore sizes; US Patent No. 10,288,571; May 14, 2019.
- 12) D.K. Cha, M.B. Alotaibi, S.M. Enezi and A.A. Yousef; Rock sample preparation method by using focused ion beam for minimizing curtain effects; US Patent No. 10,324,049; June 18, 2019.
- 13) D.K. Cha, M.B. Alotaibi. And A.A. Yousef, Calcite channel nanofluidic fabrication; US Patent No. 10,365,564; July 30, 2019.
- 14) A.A. Yousef and Ayirala, S.C; Smart water flooding processes for increasing hydrocarbon recovery; US Patent No. 10,429,372; Oct.1, 2019.
- 15) H.T. Kwak, A.A. Yousef and S.H. Saleh; Absolute porosity and pore size determination of pore types in media with varying pore sizes; US Patent No. 10,444,171; Oct. 15, 2019.
- 16) S. C. Ayirala, A.M. Sofi, A. A. Yousef and J. Wang; Polymer Flooding processes for viscous oil recovery in carbonates; US Patent No. 10,457,851; Oct. 29, 2019.

- 17) S.C. Ayirala and A.A. Yousef; Water treatment schemes for injection water flooding recovery processes in carbonate reservoirs; US Patent No. 10,479,928; Nov. 19, 2019.
- 18) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,550,312; Feb. 4, 2020.
- 19) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,590,329; March 17, 2020.
- 20) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,590,330; March 17, 2020.
- 21) S.C. Ayirala, A.A. Yousef, S.M. Enezi, and Eidan, A. Systems and methods for carbonated water flooding of hydrocarbon reservoirs; US Patent No. 10,648,305; May 12, 2020.
- 22) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,723,937; July 28, 2020.
- 23) A.A. Yousef and S.C. Ayirala, Pressure pulse assisted injection water flooding processes for carbonate reservoirs; US Patent No. 10,738,233; Aug. 11, 2020.
- 24) D.K. Cha, M.B. Alotaibi and A.A. Yousef, Fabricating calcite nanofluidic channels; US Patent No. 10,767,458; Sept. 8, 2020
- 25) S.C. Ayirala and A.A. Yousef, Characterization of crude oil-water interfacial film rigidity to enhance oil recovery; US Patent No. 10,761,428; Sept. 1, 2020.
- 26) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil recovery process using an oil recovery composition of aqueous salt solution and dilute polymer for carbonate reservoirs; US Patent No. 10,781,362; Sept. 22, 2020.
- 27) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil Recovery Process Using an Oil Recovery Composition of Aqueous Salt Solution and Metal Oxide Nanoparticles for Carbonate Reservoirs, US Patent No. 10,889,750, Jan.12, 2021.
- 28) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil Recovery Process Using an Oil Recovery Composition of Aqueous Salt Solution and Dilute Polymer for Carbonate Reservoirs, US Patent No. 10,920,128, Feb.16, 2021.
- 29) S.C. Ayirala, A.M. Sofi, and A. A. Yousef, Oil Recovery Process Using an Oil Recovery Composition of Aqueous Salt Solution and Dilute Polymer for Carbonate Reservoirs, US Patent No. 10,920,129, Feb.16, 2021.
- 30) D.K. Cha, S.M. Enezi, M.B. AlOtaibi, A.A. AlYousef, #10,948,429, Rock sample preparation method by using focused ion beam for minimizing curtain effect, March 2021.
- 31) S.C. Ayirala, A.J. Alshehri, S. Enezi, and A.A. Yousef, Tailored Injection Water Slug Designs for Enhanced Oil recovery in Carbonates, Granted US Patent # 10,954,764, March. 2021.
- 32) S. C. Ayirala, A.M. Sofi, A. A. Yousef and J. Wang; Improved Polymer Flooding processes for viscous oil recovery in carbonates, Granted US Patent # 10,961,831, March 2021.
- 33) S.C. Ayirala and A.A. Yousef, Water Treatment Schemes for Injection Water Flooding Recovery Processes in Carbonate Reservoirs, Granted US Patent # 10,968,383, Apr. 2021.
- 34) D.K. Cha, M.B. AlOtaibi, A.A. AlYousef, Calcite channel nanofluidics, #10,983,439, Apr. 2021.

- 35) S.C. Ayirala, A.M. AlSofi, J. Wang, A.A. Yousef, Enhanced Surfactant Polymer Flooding Processes for Oil Recovery in Carbonate Reservoirs, Granted US Patent #11,041,109, June 2021.
- 36) S.C. Ayirala, S., Saleh, S., M. Alabdullateef, W. Alhodythi, S. Enezi, and A.A. Yousef, Alkaline Water Flooding Processes for Enhanced Oil Recovery in Carbonates, Granted US Patent #11,066,910, July 2021..
- 37) M.B. AlOtaibi, D.K. Cha, A.A. AlYousef, In-Situ Salinity Adjustment to Improve Waterflooding Performance in Oil-Wet Carbonate Reservoirs, #11,111,426, Sept. 2021.
- 38) S.C. Ayirala. M.A. Alsaud, and A.A. Yousef, Low PH-based Oil Recovery Method for Carbonate Reservoirs, #11214730, Jan. 2022.
- 39) M.B. Otaibi, D.K. Cha, and A.A. Yousef, #11274534; Artificial Rain to Support Water Flooding In Remote Oil Fields, March 2022.
- 40) S.C. Ayirala, A. Al-Qasim, and A.A. Yousef, #11274535, Seismic Assisted Flooding Processes For Oil Recovery in Carbonates, March 2022.
- 41) D.K. Cha, A. Gmira, M.B. Otaibi, and A.A. Yousef, #11300554; Calcite Channel Structures With Heterogeneous Wettability, Apr. 2022.
- 42) A. Al-Qasim, S.C. Ayirala, and A.A. Yousef, #11352867, Enhanced Hydrocarbon Recovery with Electric Current, June 2022.
- 43) S. Saleh, D.K. Cha, and A.A. Yousef, #11366091, High Temperature High Pressure (HTHP) Cell In Sum Frequency Generation (SFG) Spectroscopy For Oil/brine Interface Analysis With Reservoir Conditions and Dynamic Compositions, June 2022.
- 44) D.K. Cha, M.B.Otaibi, and A.A. Yousef, #11366391, Fabricating Calcite Nanofluidic Channels, June 2022.
- 45) A. Alghamdi, S.C Ayirala, M.B Alotaibi, S. Enezi, and A.A. Yousef, #11384277; Manganese-assisted Waterflooding Processes For Enhanced Oil Recovery In Carbonate Formations, July 2022.
- 46) D.K. Cha, S.C. Ayirala, and A.A. Yousef, #11385160; System and Method For Dynamic Measurement of Streaming Potential In A Core Plug, July 2022.
- 47) C. Quan, S.C. Ayirala, and A.A. Yousef, #11408811; Methods and Systems for Determining Residual Fluid Saturation of a Subsurface Formation, Aug. 2022.
- 48) D.K. Cha, M.B. Otaibi, S.C. Ayirala, Z. AlYousif, and A.A. Yousef, #11414986; Detecting Carbon Dioxide Leakage in the Field, Aug. 2022.
- 49) S.Saleh, A. Gmira, and A.A. Yousef, #11448635, Method for Screening EOR Agents Effects On Reservoir Rock Wettability: An In-situ Contact Angle Measurement, Sept. 2022.
- 50) M.B. Alotaibi, D.K. Cha, and A.A. Yousef, #11454097; Artificial Rain to Enhance Hydrocarbon Recovery, Sept. 2022.
- 51) M.A. Al-Saud, S.C. Ayirala, and A.A. Yousef, #11525345, Method and system for modeling hydrocarbon recovery workflow, Dec. 2022.
- 52) A. O. Alghamdi, M.B. Alotaibi, S.C. Ayirala, and A.A. Yousef, # 11542812; In-Line Monitoring of Zeta Potential Measurements, Jan. 2023.
- 53) A. Aljedaani, M.B. Alotaibi, S.C. Ayirala, and A.A. Yousef, # 11548796; Humidification and Dehumidification Processes using Waste Heat Extracted from Abandoned Well, Jan. 2023.
- 54) M.A. Abu Al-Saud, S.C. Ayirala, and A.A. Yousef, # 11604910; Multiscale Modeling Workflow of Advanced Waterflooding, Mar. 2023.
- 55) D.K. Cha, M.B. Alotabi, S. Enezi, and A.A. Yousef, # 11628406; Fabricating Calcite Nanofluidic Channels, Apr. 2023.

- 56) S. Saleh, A. Gmira, and A.A. Yousef, # 11649708; Method of Measurement of Interfacial Tension (IFT) of Two Immiscible Fluids at Reservoir Conditions: An In Situ Gas Buffered Injection, May 2023.
- 57) D.K. Cha, S.C. Ayirala, A. Gmira, A.A. Yousef, # 11712694; In-situ Salinity and Ionic Concentration Control for Calcite Coated Microfluidic Cell, Aug. 2023.
- 58) S.C. Ayirala, Z. AlYousef, D.K. Cha, M. Almajid, M. Han, and A.A. Yousef; # 11739620; Methodology to Improve the Efficiency of Gravity Drainage CO2 Gas Injection Process, Aug. 2023.
- 59) A. O. Alghamdi, S.C. Ayirala, and A.A. Yousef, #11,788,392; Down-hole Selective Ion Removal Water Ionizer System for Subsurface Applications, Oct. 2023.
- 60) M.A. Abu Al-Saud, S.C. Ayirala, and A.A. Yousef, # 11814937; Methodology for Modeling Electrokinetic Effects and Identifying Carbonated Water Injection Parameters, Nov. 2023.
- 61) D.K. Cha, M.B. Alotabi, S.C. Ayirala, and A.A. Yousef #11840921; Detecting Carbon Dioxide leakage in the Field, Dec. 2023.

Text Books (2):

- 1) A.A. Yousef, Physics Based Data Analytics to Infer Interwell Communication Part 1: Regression, Collinearity, and New Model Development, 2020.
- 2) A.A. Yousef, Physics Based Data Analytics to Infer Interwell Communication Part 2: Model Validation, Diagnostics, and Field Applications, 2021.

Regional/International Awards (13):

- 1) 2023 Hart Energy Special Meritorious Awards for Engineering Innovation (MEA) for the Zero Liquid Discharge (ZLD) Produced Water Management Project
- 2) 2023 Global Energy Show Suzanne West Environmental Excellence Award for A Sustainable Zero Liquid Discharge (ZLD) Produced Water Management Solution for Recycling of Wastewater Streams
- 3) 2023 Gulf Energy Excellence Award for the Best EOR Technology on SmartWater Flooding- A Sustainable EOR Technology
- 4) 2023 Society of Petroleum Engineers (SPE) Distinguished Service Award
- 5) 2022 Saudi Aramco Excellence Award for the Innovation and Field Demonstration of Zero Liquid Discharge (ZLD) Produced Water Management Technology
- 6) 2022 World Oil Award for the Best Water Management Technology on Zero Liquid Discharge (ZLD) Produced Water Management Field Demonstration Project
- 7) 2021 Fellow of Energy Institute (FEI), the highest level of EI recognition awarded to Energy's leaders and influencers.
- 8) 2020 Society of Petroleum Engineers (SPE) Distinguished Membership Award
- 9) 2020 World Oil Award for the Best Water Management Technology on Zero Liquid Discharge (ZLD) Produced Water Management Innovation
- 10) 2017 Custodian of Two Holy Mosques Award for Inventors and the Gifted in recognition of the pioneering invention on SmartWater flooding technology

- 11) 2016 SPE IOR Pioneer Award for his pioneering contributions made to the advancement of recovery technologies in the field of IOR/EOR
- 12) 2015 Saudi Aramco President & CEO Excellence Award on IOR/EOR research advancements
- 13) 2011 ADIPEC Best Oil and Gas Innovation and Technology Award for SmartWater Flooding technology

Journal Publications (56):

- 1) A.A. Yousef and L.W. Lake, A Capacitance Model to Infer Interwell Connectivity from Production and Injection Rate Fluctuations, SPE Reservoir Evaluation & Engineering Journal, vol. 9 (5): 630-646. 2006.
- 2) A.A. Yousef, S. Saleh, A. Al-Kaabi, and M. Al-Jawfi, Laboratory Investigation of the Impact of Injection-Water Salinity and Ionic Content on Oil Recovery from Carbonate Reservoirs, SPE Reservoir Evaluation & Engineering, 2011.
- 3) A.A. Yousef, A.A. and S.C. Ayirala; Optimization Study of a Novel Water-Ionic Technology for Smart-Waterflooding Application in Carbonate Reservoirs, SPE Oil and Gas Facilities, 2014.
- 4) A. M. AlSofi and A. A. Yousef; Insight into Smart Water Recovery Mechanism through Detailed History Matching of Coreflood Experiments, Saudi Aramco Journal of Technology, Spring 2014.
- 5) H. T. Kwak, A. A Yousef and S. Al-Saleh; New Insights on the Role of Multivalent Ions in Water Carbonate Rock Interactions, Saudi Aramco Journal of Technology, Fall 2014.
- 6) S.C. Ayirala and A.A. Yousef; A State-of-the-Art Review to Develop Injection Water Chemistry Requirement Guidelines for IOR/EOR Projects, SPE Production and Operations, 2015.
- 7) S.C. Ayirala and A.A. Yousef; A Critical Review of Alternative Desalination Technologies for Smart Waterflooding, SPE Oil and Gas Facilities, 2016.
- 8) M. A Geer, A. Gmira, A.A. Yousef and A.M. Al Enezi; A New Insight on the Impact of Individual Ions on Fluid/Fluid Interactions and SmartWater Recovery, Saudi Aramco Journal of Technology, Fall 2016.
- 9) M.B. AlOtaibi and A.A. Yousef, A.A.; The Role of Individual and Combined Ions in Waterflooding Carbonate Reservoirs: Electokinetic Study. SPE Reservoir Evaluation & Engineering, 2017
- 10) S. Chen, Y. Kaufman, K. Kristiansen, D. Seo, A.M. Schrader, M.B. Alotaibi, H.A. Dobbs, N.A. Cadirov, J.R. Boles, S.C. Ayirala, J.N. Israelachvili, and A.A Yousef; Effects of salinity on oil recovery (the 'dilution effect'): Experimental and theoretical studies of crude oil/brine/carbonate surface restructuring and associated physico-chemical interactions, Energy & Fuels, 2017.
- 11) A. O. Alghamdi, M.B. Alotaibi, A.A. Yousef; Atomistic simulation of calcite interaction with ionic species and oil components in water-flooding, Colloids and Surface A: Physicochemical and Engineering Aspects, 2017.
- 12) S.C. Ayirala, S.M. Enezi and A.A. Yousef, A state of the art review to develop novel workflow for microscopic scale understanding of advanced water flooding mechanisms in carbonates, Journal of Petroleum Science and Engineering, 2017.
- 13) S.C. Ayirala, A.A. Yousef, Z. Li and Z. Xu; Water Ion Interactions at Crude Oil-Water Interface and their Implications on SmartWater Flooding in Carbonates, SPE Journal, 2018.

- 14) S. C. Ayirala, S.H. Saleh, S. M. Enezi, and A. A. Yousef; Impact of Salinity and Water Ions on Electrokinetic Interactions in Carbonate Reservoir Cores at Elevated Temperatures, SPE Reservoir Evaluation & Engineering, 2018.
- 15) S.C. Ayirala, A.A. Yousef, Z. Li, and Z. Xu; Coalescence of Crude Oil Droplets in Brine Systems: Effect of Individual Electrolytes, Energy & Fuels, 2018.
- 16) P. Mahzari, P. Tsohis, M. Sohrabi, S. Enezi, A.A. Yousef and A. Eidan, Carbonated Water Injection Under Reservoir Conditions; In-Situ WAG-type EOR, Fuel, 2018.
- 17) A. Gmira, D.K. Cha, S.M. El Enezi and A.A. Yousef; Impact of Salinity on Crude Oil/Brine/Rock Interfaces: A New Insight on Carbonate Wettability from Cryo-BIB-SEM, Saudi Aramco Journal of Technology, Fall 2018.
- 18) M.B. Al Otaibi, D.K. Cha, A.M. AlSofi, A.A. Yousef; Dynamic Interactions of inorganic species at carbonate/brine interfaces: A electrokinetic study, Colloids and Surface A: Physicochemical and Engineering Aspects, 2018.
- 19) S.C. Ayirala, S.H. Saleh and A.A Yousef; Microscopic Scale Interactions of Water Ions at Crude Oil/Water Interface and their Impact on Oil Mobilization in Advanced Water Flooding, Journal of Petroleum Science and Engineering, 2018.
- 20) A.M. AlSofi, J. Wang, AlBoqmi, A.M., Ayirala, S.C. and Yousef, A.A. Smartwater Synergy with Chemical Enhanced Oil Recovery: Polymer Effects on Smartwater, SPE Reservoir Evaluation & Engineering, 2019.
- 21) S.C. Ayirala, Z. Li, S.H. Saleh, Z. Xu and A.A. Yousef. Effects of Salinity and Individual Ions on Crude Oil-Water Interface Physicochemical Interactions at Elevated Temperature, SPE Reservoir Evaluation & Engineering, 2019.
- 22) S. Chen, M.B. Otaibi, S.C. Ayirala, A.A. Yousef, and J. Israelachvili, Time-Dependent Physicochemical Changes of Carbonate Surfaces from SmartWater Flooding Processes for Improved Oil Recovery, Langmuir, 2019.
- 23) J. Wang, X. Liu, L. Liu, Dongkyu Cha, X. Zheng, A. A. Yousef, K. Song, Y. Zhu, D. Zhang, and Y. Han. Direct Imaging of Tunable Crystal Surface Structures of MOF MIL-101 Using High-Resolution Electron Microscopy, Journal of the American Chemical Society, 2019
- 24) A.O Alghamdi, M.A. AlSaud, M.B. AlOtaibi, S.C. Ayirala, and A.A. Yousef. Electro-Kinetic Induced Wettability Alteration in Carbonates: Tailored Water Chemistry and Alkali Effects. Colloids and Surfaces A: Physicochemical and Engineering Aspects, Sept. 2019
- 25) A. Gmira, M.A. Hammami, S.M. Al Enezi and A.A. Yousef. Wettability Alteration of Oil-Wet Calcite: A Mechanistic Study, Saudi Aramco Journal of Technology, Oct. 2019.
- 26) S.C. Ayirala, A. Alghamdi, A. Gmira, D.K. Cha, Abu Al Saud, and A.A. Yousef. Linking Pore Scale Mechanisms with Macroscopic to Core Scale Effects in Controlled Ionic Composition Low Salinity Waterflooding Processes, Fuel, March 2020.
- 27) A. Rao, S. Kumar, C. Annink, D. Le-Anh, S.C. Ayirala, M.B. Alotaibi, I. Siretanu, M. H.G. Duits, A.A. Yousef, and F. Mugele, Mineral Interfaces and Oil Recovery: A Microscopic View on Surface Reconstruction, Organic Modification, and Wettability Alteration of Carbonates, Energy & Fuels, April 2020.

- 28) D. Le-Anh, A. Rao, S.C. Ayirala, M.B Alotaibi, M. H. G. Duits, H. Gardeniers, A.A. Yousef and F. Mugele Optical Measurements of Oil Release from Calcite Packed Beds in Microfluidic Channels, *Microfluidics and Nanofluidics*, June 2020.
- 29) S.C. Ayirala, S.H. Saleh, S.M Enezi and A.A. Yousef. Multiscale Aqueous Ion interactions at Interfaces for Enhanced Understanding of Controlled Ionic Composition Waterflooding (CICW) Processes in Carbonates, Manuscript Accepted for Publication, *SPE Reservoir Evaluation & Engineering*, August 2020.
- 30) Z. Li, Z. Xu, S.C. Ayirala and A.A. Yousef. Smartwater Effects on Wettability, Adhesion, and Oil Liberation in Carbonates, *SPE Journal*, August 2020.
- 31) S.C. Ayirala, Z. Li, R. Mariath, A.M. AlSofi, Z. Xu, and A.A. Yousef. Microscale Interactions of Surfactant and Polymer Chemicals at Crude Oil/Water Interface for Enhanced Oil Recovery, *SPE Journal*, August 2020.
- 32) Z. Li, S.C. Ayirala, R. Mariath, A.M. AlSofi, Z. Xu, and A.A. Yousef. Microscale Effects of Polymer on Wettability Alteration in Carbonates, *SPE Journal*, August 2020.
- 33) A. Rao, S. Kumar, C. Annink, D. Le-Anh, S.C. Ayirala, M.B. AlOtaibi, I. Siretanu, M. H.G. Duits, A.A. Yousef, and F. Mugele Artificial Diagenesis of Carbonates: Temperature-Dependent Inorganic and Organic Modifications in Reservoir Mimetic Fluids, *SPE Journal*, 2020.
- 34) P. Fenter, T. Qin, S. Soo Lee, M.B. AlOtaibi, S.C. Ayirala and A.A. Yousef, Molecular-Scale Origins of Wettability at Petroleum-Brine-Carbonate Interfaces, *Nature Scientific Reports*, 2020.
- 35) Q. Chen, M.B. AlOtaibi, S.C. Ayirala and A.A. Yousef, The Prospects of Low Salinity Water Flooding for Offshore Applications in Sandstones and Potential Opportunities, *Journal of Petroleum Science and Engineering*, April 2021.
- 36) S. Kumar, A. Rao, M.B. Alotaibi, S.C. Ayirala, A.A. Yousef, I. Siretanu, and F. Mugele, Response of Crude Oil Deposited Organic Layers to Brines of Different Salinity: An Atomic Force Microscopy Study on Carbonate Surfaces, *Fuel*, June 2021.
- 37) A.O. Alghamdi, S.C. Ayirala, M.B. Al-Otaibi, and A.A. Yousef, Electro-kinetically tailored interfaces for chemical enhanced oil recovery in carbonates, *Journal of Petroleum Science and Engineering*, April 2021.
- 38) T. Qin, P. Fenter, M.B. Al-Otaibi, S.C. Ayirala, and A.A. Yousef, Pore-scale oil connectivity and displacement by controlled-ionic-composition waterflooding using synchrotron X-ray microtomography, *SPEJ*, July 2021.
- 39) A. Rao, S.C. Ayirala, M.B. Alotaibi, M. H.G. Duits, A.A. Yousef, F. Mugele, Non-Monotonic Coupled Dissolution-Precipitation Reactions at the Mineral-Water Interface, *Advanced Functional Materials*, Sept. 2021.
- 40) S.C. Ayirala, A.M. AlSofi, Z. AlYousef, J. Wang, M.A. Alsaud, A.A. Yousef, SmartWater based synergistic technologies for enhanced oil recovery, *Fuel*, Jan. 2022.
- 41) D. Le-Anh, A. Rao, S. Schlautmann, A. Stetten, S.C. Ayirala, M.B. Alotaibi, M. Duits, H. Gardeniers, A.A. Yousef, and F. Mugele, Effects of fluid aging and reservoir temperature on waterflooding in 2.5D glass micromodels, *Energy & Fuels*, Jan. 2022.
- 42) M.A. AlSaud, S. Saleh, S. C. Ayirala, A.A. Yousef, Simulation of Advanced Waterflooding in Carbonates Using a Surface Complexation-Based Multiphase Transport Model, *SJOT*, March 2022.

- 43) S. Kumar, P. Cats, M.B. Alotaibi, S.C. Ayirala, A.A. Yousef, R. van Roij, I. Siretanu, F. Mugele, Absence of anomalous underscreening in highly concentrated aqueous electrolytes confined between smooth silica surfaces, *JCIS*, May 2022.
- 44) Q. Chen, M.A. Al-Saud, S.C. Ayirala, and A.A. Yousef, Mineral Dissolution and Cation Exchange Effects in Low Salinity Waterflooding, *SJOT*, June 2022.
- 45) A. Rao, N. Schilderink, D. Le-Anh, R. Zeng, C. Lievens, B. Braunschweig, S.C. Ayirala, M.B. Alotaibi, M. Duits, A.A. Yousef and F. Mugele, Formation and Stability of Heterogeneous Organo-Ionic Surface Layers on Geological Carbonates, *Energy & Fuels*, June 2022.
- 46) Q. Chen, M.A. Abu-Al-Saud, S.C. Ayirala, and A.A. Yousef, Propagation of mineral dissolution waves driven by cation exchange in low-salinity waterflooding, *Fuel*, July 2022.
- 47) D.K. Cha, S.C. Ayirala, M.B. Alotaibi and A.A. Yousef, In-situ Characterization of Carbonate/Oil/Water Interfacial Layers Using Advanced EM Techniques for Enhanced Oil Recovery, *Energy & Fuels*, August 2022.
- 48) D. Le-Anh, A. Rao, A. Stetten, S.C. Ayirala, M.B. Alotaibi, M. Duits, H. Gardeniers, A.A. Yousef, F. Mugele, Oil displacement in calcite coated microfluidic chips via waterflooding at elevated temperatures and long times, *Micromachines*, August 2022.
- 49) J. Wang, S. C. Ayirala, A.M. Alsofi, A.A. Yousef, Synergistic SmartWater Based Surfactant Polymer Flooding for Enhanced Oil Recovery in Carbonates, *Petroleum Science and Technology*, Sept. 2022.
- 50) S.C. Ayirala, A.M. Alsofi, Z. Li, R. Mariath, Z. Xu, A.A. Yousef, Synergistic Interactions of SmartWater with Surfactant and Polymer Chemicals to Lower the Rigidity of Crude Oil/Brine Interface for Enhanced Oil Mobilization, *Elsevier Text Book*, Dec. 2022.
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- 52) A. Binabdi, T. Solling, A. El Zohry, S.C. Ayirala; A. Gmira, A.A. Yousef, Fundamentals of Crystallization at Oil-Brine Interfaces for Conformance Control and Oil Spill Remediation Applications, *Journal of Geoenergy Science and Engineering*, May 2023.
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