

**Mahmoud Elsharafi, PhD**

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<b>Education:</b>	<b>Ph.D. Petroleum Engineering Missouri University of Science and Technology.</b>	May, 2013
	Dissertation: Minimizing formation damage for preformed particle gels treatment in mature reservoirs.	
	<b>M.Sc., Engineering Management Missouri University of Science and Technology: (Second Master).</b>	May, 2013
	<b>Production Engineering Certificate Missouri University of Science and Technology.</b>	May, 2013
	<b>M.Sc., Petroleum Engineering University of Miskolc in Hungary.</b>	June, 2005
	Thesis: Evaluation of productivity of oil vertical wells.	
	<b>B.Sc., Petroleum Engineering Bright Star University in Braga- Libya .</b>	July, 1999
	Project: Study of the critical and perforation pressure around the wellbore.	

**Honors & Awards:**

- EURECA/UGROW Awards at MSU Texas.
- Organization Awards from College of Science, Mathematics, and Engineering at MSU Texas.
- PhD Scholarship from Libyan Education Ministry, 2008.
- M.Sc Scholarship from Libyan Education Ministry, 2001.

**Professional Qualifications:**

I have years of experience in production, drilling, completions and reservoir engineering. Qualifications include:

- Horizontal and vertical wells drilling, completion and optimization.
- Business planning and production forecasting.
- Production operations engineering (daily oilfield operational needs).
- Reservoir engineering (exploration and Enhanced Oil Recovery (EOR) projects).
- Oilfield artificial lift systems (Electric Submersible Pumps, Gas Lift and Beam Pumps).
- Hydraulic fracturing design and evaluation for both unconventional and conventional reservoirs.
- Reservoir simulation and stimulation.
- Heavy oil specialist-Expert in steam flooding, heat management and surveillance.
- Waterflood project–design, monitoring and performance analysis.
- Chemical, polymer and Carbon dioxide flooding.
- Risk analysis of projects.

**Work Experience:**

<b>Zueitina Oil Company, Libya</b>	12/1999-5/2008
<ul style="list-style-type: none"><li>• Shift senior foreman – production engineering.</li><li>• Senior work over foreman and drilling co-coordinator.</li></ul>	

- Sirte University, Libya** 10/1999-5/2008
- Demonstrator, Petroleum Eng. Dept. Sirte University, Libya. 10/1999-3/2002
  - Assistant Lecturer of Petroleum Engineering Department, Faculty of Engineering/ Sirte University, Libya. 10/2005-5/2008
  - Taught petroleum engineering courses theoretical and experimental classes for the students in petroleum engineering department at Sirte University.
  - Advisor and supervisor for many students in my major in Libya.
  - Support some of the Libyan student to present presentations about different kinds of gas lifting and pump lifting in the oil field using the real data from some field in Libya.
  - Taught general geology and sedimentary to the students from civil engineering department at Sirte University in Libya.

- Missouri University of Science and Technology:** 01/2009-07/2013
- Teaching assistant (TA) in reservoir engineering & fluid flow in porous media.
  - Research assistant (RA) in EOR area.
  - Postdoctoral researcher in Chemical Engineering Department.
  - For postdoc position, I work in a project related to hydrodynamics of on-stream catalyst replacement heavy oil treatment unit. During the project we used optical fiber probe, gas tracer, liquid tracer, flow manometers, pressure transducers for pressure drop and gamma ray densitometry.

- University of Texas of the Permian Basin:** 08/2013
- Senior Lecturer Professor of Petroleum Engineering.
  - Teach various petroleum engineering courses for the students in petroleum engineering department at University of Texas of the Permian Basin (Production Engineering, Advanced Reservoir Engineering, Reservoir Description, Well Testing, Reservoir Evaluation)
  - Teach online courses (Fundamental Petroleum, Pipeline Technology, and Wireline-Mud Logging).
  - I have an experience about ABET accreditation for the Petroleum Engineering Program.
  - I taught a large class with more than 50 students for face to face class and more than 70 students for online class.

- Midwestern State University:** 08/2014-Present
- Associate Professor and Coordinator for Master of Science in Industrial Technology (MSIT)
  - Associate Professor and Coordinator for Petroleum Engineering Program.
  - Associate Graduate Faculty for Geoscience Department.
  - Teach petroleum engineering courses at McCoy School of Engineering (Introduction to the Petroleum Engineering, Fluid Properties, Rock Properties, Well Logging, Drilling Engineering, and Petroleum Production Operations).
  - Teach mechanical engineering courses at McCoy School of Engineering (Introduction to Engineering, Engineering Economics, Fluid Mechanics, Computational Tools, Fluid Mechanics Lab, Heat Transfer Lab, Senior Design Lab, Applied Fluid Power Design Lab, Independent Study, Thermodynamic, Material Science, and Material Science Lab).
  - I helped an ABET accreditation at MSU for the Mechanical Engineering Program.
  - I taught more than 10 Independent Study.

### Training Courses:

- Oil and Gas Production Engineering
- Well Control
- Well Testing
- Oil Economics
- Well Safety (OSHA Card)
- Project management
- Teaching Skills
- Writing NSF or DoD Proposals

### Computer Skills:

- Automation Studio
- 3-D Seismic Interpretation (Kingdom Software).
- CMG Software, and CFD Software.
- STIMPLANTM Software.
- MFrac Software.
- Prosper Software.
- PECON Software.
- Microsoft Office (Word, Excel, Power Point, Access)
- Math lab Software.
- Labview Software.
- PETRA, Petral, and Eclipse

### Book:

**Mahmoud Elsharafi.** "Measurements of Gel Pack Permeability in Mature Reservoirs". LAP LAMBERT Academic Publishing (2016-10-13)-ISBN-13: 978-3-659-96739-9. German.

### Ph.D Dissertation & M.Sc Thesis Publications

- Ghith Biheri, Abulmohsin Imqam, Shari Dunn-Norman, Ralph Flori, Kelly Liu, **Mahmoud Elsharafi**, Larry Britt. "High Viscosity Friction Reducer Evaluation at High Temperature and High TDS Environments. *Doctoral Dissertation, Missouri Science and Technology, Rolla, MO, USA, 2024.*
- Xiaojing Ge, Baojun Bai, Abulmohsin Imqam, Shari Dunn-Norman, Taghi Sherizadeh, **Mahmoud Elsharafi**. "The Comprehensive Study of High Viscosity Friction Reducers in High-TDS And High-Temperature Environments". *Doctoral Dissertation, Missouri Science and Technology, Rolla, MO, USA, November, 2023.*
- Mohammed Mousa M Alkamis, Abulmohsin Imqam, Shari Dunn-Norman, Kelly Liu, Taghi Sherizadeh, **Mahmoud Elsharafi**. "Evaluation of Robust Epoxy Resin Sealants for Wellbore Integrity Applications" *Doctoral Dissertation, Missouri S&T Library and Learning Resources, spring 2021.*
- Faisel Bergigh, Scott Meddaugh, **Mahmoud Elsharafi**, Jesse Carlucci. "Reservoir Characterization and Modeling of K-Field Murzuq Basin, Libya" *Robert L. Bolin Graduate School of Geology, MSU Texas Moffett Library, Fall 2020.*
- Abdunaser Omar Susi, lloyd R. Heinze, George B. Asquith, Mohamed Y. Soliman, Habib K. Menouar, and **Mahmoud O. Elsharafi**. "Quantitative 3D Analysis of Fracture Propagation Resulting from Composite Layering Effect in Unconventional Reservoirs. *Doctoral Dissertation, Texas Tech University Library, May 2019.*

### Peer-Reviewed Paper Publications:

1. Mohammed A. Samba, Yiqiang Lia, Zheyu liua, Masouda Farhatb, Taha Ebrahimc, Mohammed Miladc, Fares Fenniched, **Mahmoud O. Elsharafi**. “Reducing the Salinity of the Produced Water from Oil Field Using Activated Carbon Extracted from Waste Date Kernel”. *Journal of Pure & Applied Sciences VOL.22 NO. 3 2023 DOI: 10.51984/JOPAS.V22I3.2824*.
2. Sheldon Wang, Yu Guo, **Mahmoud Elsharafi**, Sungook Park, and Jeong Tae Ok. “A Simplified Model for the Study of Film Boiling Droplet Motion on Micro Scale Ratchets”. *Applied Mechanics Journal. 2023, 1, 1-11*.
3. **Mahmoud Elsharafi**, Aryian Razavi, Ryani Ferguson<sup>1</sup>; and Jibriel Abusaleem. The Effect Of Laminar And Turbulent Flow On Phase Change Materials For Energy Recovery. *Sirte University Scientific Journal (Applied Sciences). Vol.14 (1), June 2023*.
4. **Mahmoud Elsharafi**, Benton Vidal, Tyler Leonard, and Jibriel Abusaleam. Determination of the Convection Heat Transfer Coefficients for Multiphase Flow on Different Sections of a Closed Piping System. *Sirte University Scientific Journal (Applied Sciences). Vol.13(2), Dec 2022*.
5. Saad Balhasan, Biltayib M. Biltayib, **Mahmoud Elsharafi**, Mohamed Omar, Ibrahim Musbah. “Negotiating Natural Resources: A Case Study of Environmental Conflict Resolution”. *Journal of Positive School Psychology 2022*, Vol. 6, No. 4, 11061–1107.
6. **Mahmoud Elsharafi**, Christopher J. Alexis, Trevon Antoine, Mohamed Ahmed, Abdunaser Susi “Theoretical And Experimental Investigation of Liquid And Gas Flow Pressure Drop Through Different Sections of A Partially Closed Piping System” *The International Journal of Engineering and Information Technology (IJEIT2022)*,
7. **Mahmoud Elsharafi**, Abigail Reyes, Till Gebel, Tapiwa Gassler, Abdulhadi Alsadi, Jibriel Abusaleem. “Multiphase flow performance in the wellbore”. *Sirte University Scientific Journal (SUSJ) Vol.11 (1), June 2021*.
8. Mohammed Samba, Yiqiang Li, Madi Abdullah Naser, **Mahmoud Elsharafi**. “Comparison of Different Gases Injection Techniques for Better Oil Productivity”, *Journal of Petroleum and Geothermal Technology (JPGT), Universitas Pembangunan Nasional “Veteran” Yogyakarta, Indonesia, Vol 2, No 1 (2021)*.
9. **Mahmoud Elsharafi**, Abdunaser Susi, Marcus Baptiste, Shaloy Chapman, and Theo Rolle. “Darcy and Non-Darcy Flow Through Packing Particles”. *The International Journal of Engineering and Information Technology (IJEIT), VOL.7, NO.1,2020. ISSN 2410-4256*.
10. Sheldon Wang, Lynn Rowlan, **Mahmoud Elsharafi**, Mansur A. Ermila , Tomas Grejtak , Carrie Anne Taylor. “On Leakage Issues of Sucker Rod Pumping Systems”. *J. Fluids Eng. Nov 2019, 141(11): 111201, Paper No: FE-18-1643 <https://doi.org/10.1115/1.4043500>*.
11. Khalid Ewegaa, Hossein Emadi, Mohamed Soliman, Talal Gamadi, and **Mahmoud Elsharafi**. “Improving oil recovery from shale oil reservoirs using cyclic cold carbondioxide injection–An experimental study” *Fuel 254 (2019) 115586. <https://doi.org/10.1016/j.fuel.2019.05.169>*.
12. Mohammed A Samba. **Mahmoud Elsharafi**, "Literature Review of Water Alternation Gas Injection". *2018, Journal of Earth Energy Engineering, JEEE Vol. 7 No. 2. ISSN 2540 – 9352*.
13. Abdunaser O Susi, Mahmoud A Mahrous, Khalid A Elwegaa, Paul L Sims, lloyd R Heinze, George B Asquith, Mohamed Y Soliman and **Mahmoud Elsharafi**. “Optimization of Composite Layering Effect Based on Measured Formation Fracture Height to Length Ratios” *Journal of Petroleum & Environmental Biotechnology (2018), 9:3. Doi: 10.4172/2157-7463.1000376*.
14. **Mahmoud Elsharafi**. Bai, B. **2017** “Experimental Work to Determine the Effect of Load Pressure on the Gel Pack Permeability of Strong and Weak Preformed Particle Gels”. *Fuel 188 (2017) 332–342.*, <http://dx.doi.org/10.1016/j.fuel.2016.10.001>.

15. **Mahmoud Elsharafi** and Cody Chancellor." Swelling and Deswelling Kinetics of AT-O3S Polymer". *Journal of Energy and Power Engineering* 2017, 11, (3), 164-172. *Doi: 10.17265/1934-8975/2017.03.004*.
16. **Mahmoud Elsharafi** and Tibor Bodi. "Evaluation of the Productivity of Vertical Oil Wells by Using Different High Shot Densi (HSD) Guns. *Int J Petrochem Sci Eng* 2017, 2(2): 00032. *DOI: 10.15406/ipcse.2017.02.00032*.
17. **Mahmoud Elsharafi**, Denzel Kinyua, Cody Chancellor, Kentzie Rhodes. "Viscosity Measurements of Different Fluids Used for Mobility Control in Mature Reservoirs". *Eurasian Chemico-Technological Journal* 19 (2017) 141-146.
18. **Mahmoud Elsharafi** & Bai, B. "Effect of back pressure on the gel pack permeability in mature reservoir" *Fuel* 183 (2016) 449–456, <http://dx.doi.org/10.1016/j.fuel.2016.06.103>.
19. **Mahmoud Elsharafi** & Bai, B. "Influence of Strong Preformed Particle Gels on Low-Permeable Formations in Mature Reservoirs" has been published in the Petroleum Science Journal. *Pet. Sci.* (2016) 13:77-90, DOI 10.1007/s12182-015-0072-3.
20. **Mahmoud Elsharafi**. Saleh. L, Bai, B. 2017. "Quantitative Analytical Model of the Formation Damage by Gel Particles". *Journal of Technology Innovations in Renewable Energy*, 2016, 5 (4), 99-106. E-ISSN: 1929-6002/16.
21. **Mahmoud Elsharafi**. Chancellor, M. 2016 "Hydrochloride Acid Effect on the pH Value of the Superabsorbent Polymer (SAP) Solutions". *Int J Petrochem Sci Eng* 2016, 1(1): 00006. DOI: 10.15406/ipcse.2016.01.00006.
22. **Mahmoud Elsharafi**, Chancellor, C. Roshani. A. 2016. Swelling and Deswelling Kinetics of Liquiblock 40F Polymer. *Int J Petrochem Sci Eng* 2016, 1(3): 00013. DOI: 10.15406/ipcse.2016.01.00013.
23. **Mahmoud Elsharafi**. & Bai, B. (2012). Effect of Weak Preformed Particle Gel on Unswept Oil Zones/Areas during Conformance Control Treatments. *Industrial & Engineering Chemistry Research*, 51(35), 11547–11554. *DOI: 10.1021/ie3007227*. *DOI: 10.2118/16256-PA*.

#### Papers in Proceedings:

1. **Mahmoud Elsharafi**, Will Schnitker, Ian Lopez, Dan-ya Phillip, Rob Hyde, Sam Wilson, Zach Beshear, Sean Egloff "Emissions Study And Equipment Design/Build for Stripper Well Production" Proceeding paper at the Annual Southwestern Petroleum Short Course (ASWPSC), April 17-18, Lubbock, TX, 2024.
2. **Mahmoud Elsharafi**, Ty Criss, Nevil Vora, Abdullah Alkathiri. Heat Transfer Radiation Coefficient Measurements on Different Shaped Sections of a Piping System. ASME 2023 International Mechanical Engineering Congress and Exposition **IMECE2023-109833**, October 29 – November 2, 2023, New Orleans, LA, USA.
3. **Mahmoud O. Elsharafi**, Jesse Green. "The Effect of Gel Particle on the Formation Damage during Gel Treatment for the Mature Reservoirs". Proceeding paper at the 69th Annual Southwestern Petroleum Short Course (ASWPSC), April 19-20, Lubbock, TX, 2023.
4. **Mahmoud Elsharafi**, Jesse Green. "Experimental Core Flooding Test for Formation Damage during Gel Treatment". ASME 2022 International Mechanical Engineering Congress and Exposition, **IMECE2022-89189**, October 30 – November 3, 2022, Columbus, OH, USA.
5. **Mahmoud Elsharafi**, Ali Elmozughi, Pranaya Pokharel, Madison Krahl, Musaad Aldawsari, Clayton Holmes, Theo Rolle. "Experimental Analysis for a New Design of Thermal Energy Storage System". Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition. **IMECE2020-67656**, November 1-4, 2021, Virtual Conference.
6. **Mahmoud Elsharafi**, Ali Elmozughi, Pranaya Pokharel, Madison Krahl, Musaad Aldawsari, Clayton Holmes, Theo Rolle. "Simulated Model for a New Design of Thermal Energy Storage System". Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition. **IMECE2020-68202**, November 1-4, 2021, Virtual Conference.

7. **Mahmoud Elsharafi**, Christopher Alexis, Trevon Antoine. “Multiphase Flow Performance in Piping Systems”. Proceedings at the 67th Southwestern Petroleum Short Course Annual Meeting, (ASWPSC). **August 24-27, 2021, Lubbock, Texas, USA.**
8. **Mahmoud Elsharafi**, Marcus Baptiste, Shaloy Chapman. “Darcy and Non-Darcy Flow through Packing Particles”. Proceedings at the 67th Southwestern Petroleum Short Course Annual Meeting, (ASWPSC). **April 21-22, 2020, Lubbock, Texas, USA.** The conference was cancelled due to corona virus.
9. **Mahmoud Elsharafi**, Ali Elmozughi, Kelton Vidal, Rumelia Thomas, Saleh Almutairi, Thilanka Senevirathne, and Joshua Lambright. “Energy Recovery Unit Using Phase Change Materials”. Proceedings of the ASME 2020 International Mechanical Engineering Congress and Exposition. **IMECE2020-17285, November 16-19, 2020, Virtual Conference.**
10. **Mahmoud Elsharafi**, Brandy Fields, Caleb Acuna, Sheldon Walsh, Okan Lefleur, and William Statham. “The Design And Implementation Of A Heat Transfer System For The Pyrolysis Of Synthetic Polymers”. Proceedings of the ASME 2020 International Mechanical Engineering Congress and Exposition. **IMECE2020-18553, November 16-19, 2020, Virtual Conference.**
11. **Mahmoud Elsharafi**, Preformed Particle Gels (PPGs) Compressibility Measurements in the Reservoirs Channels. Proceedings of the 2019 International Mechanical Engineering Congress & Exposition. **IMECE2019-10043, November 8-14, 2019, Salt Lake City, Utah, USA.**
12. Mohammed A Samba , Hafsa A Hassan, Mahjouba S Munayr , Moataz Yusef , Abdelkareem Eschweido, **Mahmoud Elsharafi**. Nanoparticles EOR Aluminum Oxide ((AL<sub>2</sub>O<sub>3</sub>) used a Spontaneous Imbibition Test for Sandstone Core. Proceedings of the 2019 International Mechanical Engineering Congress & Exposition. **IMECE2019-10283, November 8-14, 2019, Salt Lake City, Utah, USA.**
13. **Mahmoud Elsharafi**, Kelton Vidal, Chiedza Tokonyai. “**Energy from Saltwater**”. Proceedings at the 66<sup>th</sup> Southwestern Petroleum Short Course Annual Meeting, (ASWPSC), **pages 355-363. April 17-18, 2019, Lubbock, Texas, USA.**
14. **Mahmoud Elsharafi**, Jenom Pyeng, Jedesh Chandrasegaran, Gayal Hawakuruppu, and Tapiwa Gasseler. “Dynamic Filtration Test Experiment Design”. Proceedings at the 66th Southwestern Petroleum Short Course Annual Meeting, (ASWPSC), **pages 364-380. April 17-18, 2019, Lubbock, Texas, USA.**
15. **Mahmoud Elsharafi**, Kelton A. Vidal, Rumelia E. Thomas. “Measurements of the Contact Angle for Various Fluids which Used Widely in the Oilfields to Improve Oil Recovery”. **IMECE2018, 86717, November 9-15, 2018, Pittsburgh, PA, USA.**
16. Mohammed Samba, **Mahmoud Elsharafi**, and Ibrahim Aldokali “Gas Alternating Gas Injection” Proceeding at Benghazi International Forum & Exhibition of Oil and Gas, 9-11 Oct 2018. Benghazi, Libya.
17. **Mahmoud Elsharafi**, Mohamed Hussen Masaud, Faisal Bergigh. “Forecasting the Reservoir Performance Data of Oilfield in Libya by Using Decline Curve Analysis ". Proceedings at the 65th Southwestern Petroleum Short Course Annual Meeting, (ASWPSC), pages 335-346. April 16-19, **2018**, Lubbock, Texas, USA.
18. **Mahmoud Elsharafi**, Chiedza S. Tokonyai, Adanna D. Okoye, Jomarie LeBlanc. "Dynamic Contact Angle Measurement". Proceedings at the 65th Southwestern Petroleum Short Course Annual Meeting, (ASWPSC), pages 323-334. April 16-19, **2018**, Lubbock, Texas, USA.
19. Mohammed A. Samba , **Mahmoud Elsharafi**. “Comparison of Different Gases Injection for Better Oil Recovery”. Proceedings at the **Second Scientific Conference of oil and Gas**. 2018. Ajdabiya, Libya, Faraday 5-7, **2018**.
20. Ali K. Alhuraishawy, Baojun Bai, Mingzhen Wei, Abdullah Almansour, Mortadha Alsaba, and **Mahmoud Elsharafi**. “Integrating Microgel-Low Salinity Waterflooding to Improve Production Profile in Non-Crossflow Heterogeneous Reservoir”. Proceedings at the **SPE Kingdom of Saudi Arabia Annual Technical Symposium and Exhibition** held in Dammam, Saudi Arabia, 23–26 April **2018**.

21. **Mahmoud Elsharafi**, Cody Chancellor, Cameron Duckworth, Moiz Tatla, Reuben Denwe, Okan Lafleur, Zhiqi Mao, Mohamed Azzouz, Sheldon Wang. "Heat Transfer Technology to Convert Plastic Trash to Oil". Proceedings of the ASME 2017 International Mechanical Engineering Congress and Exposition. **IMECE2017, 70953. November 3-9, 2017, Tampa, Florida, USA.**
22. **Mahmoud Elsharafi**, Cody Chancellor, Denzel Kinyua, Reuben Denwe. "Viscosity Measurements for Various Mixed Fluids Used to Enhance Oil Recovery". Proceedings of the ASME 2017 International Mechanical Engineering Congress and Exposition. **IMECE2017, 70961. November 3-9, 2017, Tampa, Florida, USA.**
23. **Mahmoud Elsharafi**, Brandy Fields, Kristen Moss, Cody Chancellor. "Oil Effect on the Dehydration of Superabsorbent Polymer". Proceeding paper at the 64th Annual Southwestern Petroleum Short Course (**ASWPSC**), April 19-20, Lubbock, TX, **2017.**
24. **Mahmoud Elsharafi**, Haiat K. Alhaj, and LailaSaleh , Cody Chancellor. "Single Well Productivity Model by Using System Nodel Analysis and Production Decline". Proceeding paper at the 64th Annual Southwestern Petroleum Short Course (**ASWPSC**), April 19-20, Lubbock, TX, **2017.**
25. Mohammed A. Samba , **Mahmoud Elsharafi** . "Literature Review of Water Alternation Gas Injection" 1<sup>ST</sup> International Conference of science at Sebha University, 07, 21, Libya, **2017.**
26. Cody Chancellor, **Mahmoud Elsharafi**. Swelling and Deswelling kinetics of superabsorbent Polymer, **IMECE2016-68042**, ASME International Mechanical Engineering Congress & Exposition, **November 11-17, 2016, Phoenix, AZ, USA**
27. Cody Chancellor, Connor Kirby, **Mahmoud Elsharafi**. "Evaluate the Effect of pH on the Mixed Brine and Chemical Solutions". **IMECE2016-68043**, ASME International Mechanical Engineering Congress & Exposition, **November 11-17, 2016, Phoenix, AZ, USA.**
28. **Mahmoud Elsharafi** , Cody Chancellor, Connor Kirby, and Jeong Tae Ok, "Control PH Value for Superaborbent Polymers (SAPS) Solutions by using Hydrochloride Acid (HCL)". Proceeding paper at the 63rd Annual Southwestern Petroleum Short Course (**ASWPSC**), April 20-21, Lubbock, TX, **2016.**
29. **Mahmoud Elsharafi**, Laila D. Saleh, Haiat K. Alhaj. "Microgels, Bright Water, and Colloidal Dispersion Gel (CDG) Applications in Mature Reservoirs". Proceeding of the 1st International Conference on Chemical, Petroleum, and Gas Engineering (**ICCPGE 2016**), 22-23 December, **2016** at Alkhoms, Libya.
30. Laila D. Saleh, Muna M. Hammuda, Abdussalam M. Mohamed, Haiat K. Alhaj, **Mahmoud O. Elsharafi**, and Baojun Bai: "Recovery Predictions for Polymer Flooding Method". Proceeding of the 1st International Conference on Chemical, Petroleum, and Gas Engineering (**ICCPGE 2016**), 22-23 December, **2016** at Alkhoms, Libya.
31. **Mahmoud Elsharafi**, Saleh Lila, Baojun Bai. "Quantitative Analytical Model of the Formation Damage by Gel Particles" In Proceeding of the 1st International Conference on Chemical, Petroleum, and Gas Engineering (**ICCPGE 2016**), 22-23 December, 2016 at Alkhoms, Libya.
32. **Mahmoud Elsharafi** and Baojun Bai. (2015030) "Gel Pack-A Novel Concept to Optimize Preformed Particle Gels (PPGs) Conformance Control Treatment Design". Proceeding of the **62nd** Annual Meeting of Southwestern Petroleum Conference (**ASWPSC**), Held in Lubbock, Texas 22-23 April **2015.**
33. **Mahmoud Elsharafi** and Tibor Bodi. (2015033) "Evaluation of the Productivity of the Vertical Oil Wells by Using Different High Shot Density (HSD) Guns". Proceeding of the **62nd** Annual Meeting of Southwestern Petroleum Conference (**ASWPSC**), Held in Lubbock, Texas 22-23 April **2015.**
34. **Mahmoud Elsharafi** & Bai, B. (2015). Minimizing formation damage for preformed particle gels treatment in mature reservoirs. Proceeding of the **SPE** Asia Pacific Enhanced Oil Recovery Conference. 11 – 13 August, **2015** in Kuala Lumpur, Malaysia. SPE-174645-MS.
35. **Elsharafi, M.**, and Bai, B. (2013). Effect of Strong Preformed Particle Gel on Unswept Oil Zones/Areas during Conformance Control Treatments. Proceedings of the 75th EAGE Conference



& Exhibition incorporating SPE EUROPEC, London, United Kingdom, 10-13 June. **SPE-164879-MS**.

36. **Mahmoud Elsharafi** & Bai, B. (2011). Static Filtration Tests to Evaluate the Damage of Preformed Particle Gel on Non-Swept Zones/Areas during Conformance Control Treatments. **EAGE Libya - 5th North African Mediterranean Petroleum and Geosciences Conference & Exhibition** Tripoli, Libya, 28-30 March.

#### Report:

Bai, B., Zhang, H., Shuler, P., Qu, Q., Wu, Y., Challa, R., **Mahmoud Elsharafi**., Zhou, J. (2012). **RPSEA** Final Report “Preformed Particle Gel for Conformance Control”. **Contract Number: 07123-2**.

#### Presentations:

1. Gerrit Nemeč, Kelton Brown, **Mahmoud Elsharafi**. “The effectiveness of a surfactant/alkaline on enhanced oil recovery (EOR) on a mature reservoir” **UGRAF Spring 2024**. MSU Texas, Wichita Falls, TX. **Poster Presentation**.
2. Will Schnitker, Ian Lopez, Dan-ya Phillip, **Mahmoud Elsharafi**, Rob Hyde, Sam Wilson, Zach Beshear, Sean Egloff “Emissions Study And Equipment Design/Build for Stripper Well Production” (**NTASC 2024**) 28th Annual North Texas Area Student Conference, Wichita Fall TX.
3. Pranaya Pokharel, Azzouz Salim, Ilhan Zeki, Desai Raj., **Mahmoud Elsharafi**, Wang Sheldon, Guo Yu, Brink Jan. Young Engineers Summer Camp for K-12 Students: Stem Experiences and Lessons Learned. ASME 2023 International Mechanical Engineering Congress and Exposition. **IMECE2023-109837**.
4. **Mahmoud Elsharafi**. The Effect of Laminar and Turbulent Flow on Phase Change Materials for Energy Recovery. ASME 2023 International Mechanical Engineering Congress and Exposition. **IMECE2023- 113601**. October 29 – November 2, 2023, New Orleans, LA, USA.
5. White McClain, Vora Nevil, **Mahmoud Elsharafi**. Membrane Distillation for Clean Water Production. **UGRAF Fall 2022 and Spring 2023**.
6. Ty Criss, **Mahmoud Elsharafi**. The Statistics Behind the Educational and Diversification Benefits for Students whom Study Abroad **UGRAF Spring 2023**. MSU Texas, Wichita Falls, TX.
7. Ty Criss, Nevil Vora, Abdullah Alkathiri, **Mahmoud Elsharafi**. Heat Transfer Radiation Coefficient Measurements on Different Shaped Sections of A Piping System **UGRAF Fall 2022 and Spring 2023**. MSU Texas, Wichita Falls, TX.
8. Ty Criss, Nevil Vora, Abdullah Alkathiri, **Mahmoud Elsharafi**. Heat Transfer Radiation Coefficient Measurements on Different Shaped Sections of A Piping System . (**NTASC 2023**) 27th Annual North Texas Area Student Conference, Wichita Fall TX.
9. **Mahmoud Elsharafi**, Leonard Tyler, Vidal Benton. “Determination of the Convection Heat Transfer Coefficients for Multiphase Flow on Different Sections of a Closed Piping System”. ASME 2022 International Mechanical Engineering Congress and Exposition, **IMECE2022-89396**, October 30 – November 3, 2022, Columbus, OH, USA.
10. Aryian Razavi, **Mahmoud Elsharafi**. “The effect of laminar and turbulent flows on the phase change materials for energy recovery”. **UGROW 2022**, MSU Texas, Wichita Falls, TX. **Oral Presentation**.
11. Leonard Tyler, Vidal Benton, **Mahmoud Elsharafi**. “Determination of the Convection Heat Transfer Coefficients for Multiphase Flow on Different Sections of a Closed Piping System”. **UGRCA Fall 2021 & Spring 2022**.



12. Leonard Tyler, Vidal Benton, **Mahmoud Elsharafi**. “Determination of the Convection Heat Transfer Coefficients for Multiphase Flow on Different Sections of a Closed Piping System”. **NTASC - Spring 2022**.
13. Amit Yonjan, Aryian Razavi, **Mahmoud Elsharafi**. “The Effect of Laminar and Turbulent Flow on the Phase Change Materials for Energy Recovery”. **UGRCA Fall 2021**.
14. **Mahmoud Elsharafi** “Dynamic Filtration Test Experimental Work to Study the Effect of Preformed Particle Gels on the Formation Damage” Presentation for the ASME 2021 International Mechanical Engineering Congress and Exposition. IMECE2020- 70423, November 1-4, 2021, Virtual Conference.
15. Ryani Ferguson, Aryian Razavi, **Mahmoud Elsharafi**. “The effect of laminar and turbulent flows on the phase change materials for energy recovery”. Continuing Project, UGROW 2021, MSU Texas, Wichita Falls, TX. **Oral Presentation**.
16. Christopher Alexis, Trevon Antoine, **Mahmoud Elsharafi**. “Multiphase Flow in Pipeline System”. **EURECA Fall 2020 and Spring 2021**, MSU Texas, Wichita Falls, TX. **Virtual Presentation**.
17. Aldawsari Musaad, Holmes Clayton, Krahl Madison, Rolle Theo, Pranaya Pokharel, **Mahmoud Elsharafi**, Pokharel, Pranaya, and Ali Elmozughi. “Experimental and Simulation Model for a New Design of Thermal Energy Storage System”. **EURECA Fall 2020 and Spring 2021**, MSU Texas, Wichita Falls, TX. **Virtual Presentation**.
18. Aldawsari Musaad, Holmes Clayton, Krahl Madison, Rolle Theo, Pranaya Pokharel, **Mahmoud Elsharafi**, Pokharel, Pranaya, and Ali Elmozughi. “Experimental and Simulation Model for a New Design of Thermal Energy Storage System”. North Texas Area Student Conference, **NTASC - SPRING 2021**.
19. Christopher Alexis, Trevon Antoine, **Mahmoud Elsharafi**. “Multiphase Flow in Pipeline System”. North Texas Area Student Conference, **NTASC - SPRING 2021**.
20. Kelton Vidal, Rumelia Thomas, Thilanka Senevirathne, Saleh Almutairi, Joshua Lambright, **Mahmoud Elsharafi**. “Energy Recovery Unit using Phase Change Material”. Virtual Presentation **2020 ACU Undergraduate Research Festival**.
21. Christopher Alexis, Trevon Antoine, **Mahmoud Elsharafi**. “Multiphase Flow in Pipeline”. **UGROW 2020**, MSU Texas, Wichita Falls, TX. **Oral Presentation**.
22. Kelton Vidal, Rumelia Thomas, Thilanka Senevirathne, Saleh Almutairi, Joshua Lambright, **Mahmoud Elsharafi**. Energy Recovery Unit using Phase Change Material. **Oral presentation EURECA Fall 2019 & Spring 2020**.
23. Theo Rolle, Mahmoud Elsharafi Darcy and Non-Darcy Flow through Packing Particles. **Poster presentation EURECA Spring 2019**.
24. Marcus Baptiste, Mahmoud Elsharafi. “Darcy and Non--Darcy Flow Through Packing Particles”. July 2, 2019, **UGRUW 2019**.
25. Abigail Reyes, Till Gebel, Tapiwa Gasseler, Abdulhadi Alsadi, **Mahmoud Elsharafi**. “Multiphase Flow Performance in the Wellbore” 2019 Celebration of Scholarship Undergraduate Student, Thursday April 25. **EURECA 2019. Oral Presentation**.
26. Kelton Vidal, **Mahmoud Elsharafi**. “Energy from Saltwater Mud” 2019 Celebration of Scholarship Undergraduate Student, Thursday April 25. **EURECA 2019. Poster Presentation**.
27. Jenom Pyeng, Jedesh Chandrasegaran, Gayal Hewakuruppu, Tapiwa Gasseler, **Mahmoud Elsharafi**. “Dynamic Filtration Test Experiments Design”. 2019 Celebration of Scholarship Undergraduate Student, Thursday April 25. **EURECA 2019. 2<sup>ND</sup> Best Poster Presentation**.
28. Baptiste Marcus, **Mahmoud Elsharafi**. “Darcy and Non-Darcy Flow Through Packing Particles”. July 2, **UGROW 2019. Oral Presentation**.
29. Jenom Pyeng, Jedesh Chandrasegaran, Gayal Hewakuruppu, Tapiwa Gasseler, **Mahmoud Elsharafi**. “Dynamic Filtration Test Experiments Design” **NCUR 2019**. Kennesaw State University, Kennesaw, GA. **Poster Presentation**.
30. Kelton Vidal, **Mahmoud Elsharafi**. “Energy from Saltwater Mud”. North Texas Area Student Conference 2019 (**NTASC-2019**). MSU Texas, Wichita Falls, TX. **Oral Presentation**.

31. Gebel Till, Ryes Abigail, Alsadi Abdulhadi, and Gasseler Tapiwa, **Mahmoud Elsharafi**. "Multi-phase Flow Performance in the Wellbore". North Texas Area Student Conference 2019 (NTASC-2019). MSU Texas, Wichita Falls, TX. **Oral Presentation.**
32. Jenom Pyeng, Gasseler Tapiwa, Jedeshkeran Chandrasegaran, **Mahmoud Elsharafi**. "Dynamic Filtration Test Experiments Design". North Texas Area Student Conference 2019 (NTASC-2019). MSU Texas, Wichita Falls, TX. **Oral Presentation.**
33. Jedesh Chandrasegaran, and Sheldon Walsh, and **Mahmoud Elsharafi** "Acid (HCL) Effect on the pH Value of Chemical Solutions" at the National Council on Undergraduate Research, **NCUR 2018**, April 6th, 2018, Edmond, OK.
34. Omar Clarke, Jomarie Leblanc, and Sheldon Walsh, and **Mahmoud Elsharafi** "Dynamic Contact Angle Measurements" at the National Council on Undergraduate Research, **NCUR 2018**, April 6th. Edmond, OK. Also, their poster has been published online on the **Journal of student Research.**
35. Sheldon Walsh, Brandy fields, Caleb Acuna, William Statham, Okan Lefleur, and **Mahmoud Elsharafi** "Design and Implementation of Heat Transfer System for the Pyrolysis of Synthetic Polymers" at the National Council on Undergraduate Research, **NCUR 2018**, April 6th. Edmond, OK. Oral presentation
36. Jedeshkeran Chandrasegaran, Cody Chancellor, Conner Kirby, and **Mahmoud Elsharafi** "Evaluation of the pH Valve Effect on the Chemical Treatments" at the 2nd International Conference on Gas, Oil and Petroleum Engineering conference (**GOPE-2018**), February 27th, Houston, TX. Poster presentation.
37. Denzel Kinyua, Kentzie Rhodes, Cody Chancellor, **Mahmoud Elsharafi**. "Viscosity Measurements for Various Mixed Fluids Used to Enhance Oil Recovery". Southwestern North America Regional Student Paper Contest in the Undergraduate Division for the **SPE** students contest, Wednesday, 1 February **2017**, Denver, Co.
38. Denwe Reuben, Duckworth Cameron, Mao, Zhiqi, Tatla Moiz , Chancellor Cody, **Mahmoud Elsharafi**, Salim Azzoz, Shedon Wang, and Lafleur Okan. "Heat Transfer Technology to Convert Plastic Trash to Oil Fuel". 31st Annual National Conference on Undergraduate Research (**NCUR**) University of Memphis - April 6-8, **2017**.
39. Cody Chancellor, Cameron Duckworth, Okan La Fleur, Zhiqi Mao, Reuben Denwe, **Mahmoud Elsharafi**, alim Azzouz, Sheldon Wang. "Heat Transfer Technology To Convert Plastic Trash To Oil" North Texas Area Student Conference (**NTASC**) April, 29, **2017**, Midwestern State University, Wichita Falls, Texas.
40. Reuben Denwe, Denzel Kinyua, Cody Chancellor, **Mahmoud Elsharafi**. "Viscosity Measurements For Various Mixed Fluids Used To Enhance Oil Recovery". North Texas Area Student Conference (**NTASC**) April 29, **2017**, Midwestern State University, Wichita Falls, Texas.
41. Jomarie Leblance, Chiedza Tokoyai, **Mahmoud Elsharafi**. "Dynamic Contact Angle Measurements. North Texas Area Student Conference (**NTASC**) April 29, **2017**, Midwestern State University, Wichita Falls, Texas.
42. Ravi Prasanth Baskaran, Kyle Gordon, Connor Kirby, Martin Moore, Hyungmo Yeon, Sheldon Wang, **Mahmoud Elsharafi**, Modeling And Testing For Slippage Of Sucker-Rod Pumps. North Texas Area Student Conference (**NTASC**) April 29, **2017**, Midwestern State University, Wichita Falls, Texas.
43. Packiaraj Arumugham, **Mahmoud Elsharafi**, Attapol Kuanliang. **2017**. "Islamophobia: College Students' Perceptions and Experiences". **AICMSE 2017. 4th Academic International Conference on Multidisciplinary Studies and Education** held on 25th-27th September 2017 in **Boston, USA.**
44. Cody Chancellor, Connor Kirby, **Mahmoud Elsharafi**, and Jeong Tae Ok. "Kinetics of a Super-Absorbent Polymer", **2016 SPE** Southwestern North America Student Paper Contest on April 2, **the University of Texas at Austin, TX.**
45. Ayesha Dewalagawa Madamawatta, **Mahmoud Elsharafi**. "Swelling/De-swelling Kinetics for LiquiBlock-40F Polymer Using Various Brine Concentrations". North Texas Area Student Conference, April 16, Wichita Falls, Tx, (**NTASC 2016**).

46. Kiran Chapagain, Daniel Goodey , Jeong Tae Ok, Sheldon Wang, Yu Guo, **Mahmoud Elsharafi**. “Modeling Study of Leidenfrost Drop on Micro- and Nanoscale Ratchets”. North Texas Area Student Conference, April 16, Wichita Falls, Tx, (*NTASC 2016*).
47. Cody Chancellor, **Mahmoud Elsharafi**. “Evaluate the Effect of pH on the Mixed Brine and Chemical Solutions”. North Texas Area Student Conference, April 16, Wichita Falls, Tx, (*NTASC 2016*).
48. Kiran Chapagain, Daniel Goodey, Yu Guo, **Mahmoud Elsharafi**, Jeong Tae Ok, Sunggook Park, and Sheldon Wang. **2016**. "Modeling Study of the Leidenfrost Drop on the Miniaturized Ratchets" **2016 US-Korea Conference on Science, Technology and Entrepreneurship (UKC 2016)**, Aug 10-13, **Dallas, TX, G4593**.
49. Jeong Tae Ok, Kiran Chapagain, Daniel Goodey, Ayesha Madamwatta, Eurydice Kanimba, **Mahmoud Elsharafi**, Yu Guo, Sheldon Wang, and Sunggook, "Modeling study of Leidenfrost liquid drops moving on surfaces with micro- and nano-scale ratchets”, **2016** Technical Presentation of the **ASME International Mechanical Engineering Congress & Exposition**, November 11-17, Phoenix, AZ, USA, **IMECE2016-68160**.
50. Connor Kirby, Cody Chancellor, **Mahmoud Elsharafi**. “Evaluate the Effect of pH on the Mixed Brine and Chemical Solutions”. International Conference on Gas, Oil and Petroleum Engineering. November 14-16, **2016 | Las Vegas, USA**.
51. Cody Chancellor, **Mahmoud Elsharafi**, “Swelling and Deswelling kinetics of AT-O3S Polymer” International Conference on Gas, Oil and Petroleum Engineering. November 14-16, **2016 | Las Vegas, USA**.
52. **Mahmoud Elsharafi**. Quantitative Analytical Model of the Formation Damage by Gel Particles. 5<sup>th</sup> World Congress on Petrochemistry and Chemical Engineering, December 05-07, **2016 Phoenix, Arizona, USA**.
53. **Mahmoud Elsharafi**. “Effect of Back Pressure on Gel Pack Permeability during Conformance Control Treatment”. Presented at the **2015** Southwest Section of the **AAPG** Annual Convention, held in **Wichita Falls, Texas** 11-14 April 2015.
54. Cody Chancellor, **Mahmoud Elsharafi**. “Oilfield Excess Water Shut-off for Mature Reservoir by using Superabsorbent Polymer and Various Brine Concentrations”. *NTASC Confe* (North Texas Area Student Conference), April 18, **2015**, Midwestern State University, Wichita Falls, Texas.
55. **Mahmoud Elsharafi (2015)**. “Petroleum Engineering Program at Midwestern State University”. Presented at the 2015 Society of Engineering Science **52nd** Annual Technical Meeting in **Texas A@M University**, 25-28 October.
56. Baojun Bai, **Mahmoud Elsharafi**, Jia Zhou, Zinan Li, Rajesh Challa, Hao Zhang, Patrick Shuler, Qu Qi, Jennifer Cutler. Preformed Particle Gel (PPG) for Conformance Control. Feb, **2010**, **Midland, TX**.

#### **MSU Student Research Awards:**

1. Alexis Camarena, **Mahmoud Elsharafi**. “Water Consortium” **EURECA** Fall 2024 and Spring 2025.
2. Gerrit Nemeck, **Mahmoud Elsharafi**. “The effectiveness of a surfactant/alkaline on enhanced oil recovery (EOR) on a mature reservoir” **EURECA Fall 2024 and Spring 2025**.
3. Jabez Mackey, **Mahmoud Elsharafi**. “The effectiveness of a surfactant/alkaline on enhanced oil recovery (EOR) on a mature reservoir” **UGROW Summer-2024**.
4. Gerrit Nemeck, Kelton Brown, **Mahmoud Elsharafi**. “The effectiveness of a surfactant/alkaline on enhanced oil recovery (EOR) on a mature reservoir” **EURECA Spring-2024**.
5. Ty Criss, **Mahmoud Elsharafi**. The Statistics Behind the Educational and Diversification Benefits for Students whom Study Abroad. **EURECA Spring-2023**.
6. White McClain, Vora Nevil, **Mahmoud Elsharafi**. “Membrane Distillation for Clean Water Production”. **EURECA Fall-2022 and Spring 2023**.

7. Amit Yonzan, **Mahmoud Elsharafi**. “The effect of laminar and turbulent flows on the phase change materials for energy recovery”. **EURECA Fall-2021 and Sprin-2022**.
8. Ryani Ferguson, Aryian Razavi, **Mahmoud Elsharafi**. “The effect of laminar and turbulent flows on the phase change materials for energy recovery”. **UGROW 2021**.
9. Christopher Alexis, Trevon Antoine, **Mahmoud Elsharafi**. “Multiphase Flow in Pipeline”. UGROW 2020, MSU Texas, Wichita Falls, TX. **UGROW 2020 and EURECA 2020/2021**.
10. Theo Rolle, **Mahmoud Elsharafi**. “Darcy and Non-Darcy Flow through Packing Particles”. **EURECA 2019**.
11. Marcus Baptiste, Shaloy Chapman, **Mahmoud Elsharafi**. “Darcy and Non--Darcy Flow Through Packing Particles”. **UGROW 2019**.
12. Jenom Pyeng, Jedesh Chandrasegaran, Gayal Hewakuruppu, Tapiwa Gasseler, **Mahmoud Elsharafi**. “Dynamic Filtration Test Experiments Design”. **EURECA 2019**.
13. Kelton Vidal, and **Mahmoud Elsharafi**. “Energy from Saltwater”. **EURECA Fall 2018**.
14. Yohan Casey, Simeon Chad, and **Mahmoud Elsharafi**. “Dynamic Filtration Test to Investigate the Effect of Preformed Gels on Unswept, Low-Permeable Zones/Areas” **EURECA Fall 2018**.
15. Chiedza Tokonyai, and **Mahmoud Elsharafi**. “Energy from Saltwater”. **EURECA Spring 2018**.
16. Crege La Ronde and Shanley Paul, and **Mahmoud Elsharafi**. “Dynamic Filtration Test to Investigate the Effect of Preformed Gels on Unswept, Low-Permeable Zones/Areas” **EURECA Spring 2018**.
17. Rumelia Thomas and Kelton Vidal, and **Mahmoud Elsharafi**. “Dynamic Contact Angle Measurements” **EURECA Spring 2018**.
18. Jedesh Chandrasegaran, Tapiwa Gasseler, Gayal Hewakuruppu, and **Mahmoud Elsharafi**. “Dynamic Filtration Test to Investigate the Effect of Preformed Gels on Unswept, Low-Permeable Zones/Areas” **UGROW Summer 2018**.
19. Sheldon Walsh, Jomarie Leblanc, Omar Clarke, and **Mahmoud Elsharafi**, 2017. “Dynamic Contact Angle Measurements”. **EURECA Fall 2017** Undergraduate Research and Creative Activity Forum.
20. Jedesh Chandrasegaran, Sheldon Walsh, and **Mahmoud Elsharafi**. “Acid (HCL) Effect on the pH Value of Chemical Solutions. **UGROW 2017**.
21. Connor Kirby, Cody Chancellor, **Mahmoud Elsharafi**, Evaluate the Effect of pH on the Mixed Brine and Chemical Solutions. Undergraduate Research and Creative Activity Forum, May 01 , **EURECA-2016**, Midwestern State University, Wichita Falls, Texas.
22. Danzel M. Kinyua, Kentzie Rhodes, **Mahmoud Elsharafi**, Jeong Ok. Viscosity Measurements for Various Fluids Used in Oil Industry. Undergraduate Research and Creative Activity Forum, May 01 , **EURECA-2016**, Midwestern State University, Wichita Falls, Texas.
23. Kiran Chapagain, Daniel Goodey, Jeong Ok, Yu Guo, Sheldon Wang, and **Mahmoud Elsharafi**. Computational Study of Film Boiling Droplet Motion on Micro- and Nanoscale Ratchets. Undergraduate Research and Creative Activity Forum, May 01, **EURECA-2016**, Midwestern State University, Wichita Falls, Texas.
24. Kiran Chapagain, Daniel Goodey, Jeong Tae Ok, **Mahmoud Elsharafi**, Yu Guo, Sheldon Wang got award about the **3rd Place** for the best oral presentation for the undergraduate Research and Activity Forum, **Spring EURECA-2016** “Modeling Study of Leidenfrost Drop on Micro- and Nanoscale Ratchets.
25. Kieran Chapagain, Corbin Matamoros, Chiedza Tokonyai, Jeong Tae Ok, **Mahmoud Elsharafi**. “Computational Study of Film Boiling Droplet Motion on Micro- and Nanoscale Ratchets” **EURECA Fall 2016**.

26. Cody Chancellor, Chavindra Hatharasinghe, **Mahmoud Elsharafi**, Jeong Tae Ok. "Oilfield Excess Water Shut-off for Mature Reservoir by using Superabsorbent Polymer and Various Brine Concentrations". Undergraduate Research and Creative Activity Forum, April 30, **EURECA-2015**, Midwestern State University, Wichita Falls, Texas.
27. Ayesha Madamawatta and **Mahmoud Elsharafi**. "Swelling/De-swelling Kinetics for Superabsorbent Polymer by Using Various Brine Concentrations". July 02, **UGROW-2015**, Midwestern State University, Wichita Falls, Texas.
28. Connor Kirby, Cody Chancellor, **Mahmoud Elsharafi**, and Jeong Ok. "Use of Hydrochloride acid (HCl) to Control pH Value for Superabsorbent Polymer Solutions". Undergraduate Research and Creative Activity Forum, November 19, **EURECA-2015**, Midwestern State University, Wichita Falls, Texas.
29. Matthew Felix, Cecil Francis, Ayesha Madamawatta, Matthew Murphy, Jeong Ok, and **Mahmoud Elsharafi**. "Enhanced Oil Recovery Using Microfluidic Porous Media Analog". Undergraduate Research and Creative Activity Forum, November 19, **EURECA-2015**, Midwestern State University, Wichita Falls, Texas.
30. Mohamed Hussen Masaud and **Mahmoud Elsharafi**. "Forecasting the Reservoir Performance Data of Oilfield in Libya by Using Decline Curve Analysis". Undergraduate Research and Creative Activity Forum, November 19, **EURECA-2015**, Midwestern State University, Wichita Falls, Texas.
31. Kiran Chapagain, Jeong Ok, Yu Guo, Sheldon Wang, and **Mahmoud Elsharafi**. "Computational study of film boiling droplet motion on Micro- and Nano-scale ratchets". Undergraduate Research and Creative Activity Forum, November 19, **EURECA-2015**, Midwestern State University, Wichita Falls, Texas.
32. Ayesha Madamawatta and **Mahmoud Elsharafi**. "Minimizing the Effect of Preformed Particle Gels on Unswept Low-Permeable Formation in Mature Reservoir". Undergraduate Research and Creative Activity Forum, November 21, **EURECA-2014**, Midwestern State University, Wichita Falls, Texas.

### In Progress and Future Projects:

- Collaborating with Texas Tech University about Texas Produced Water project
- The effectiveness of a surfactant/alkaline on enhanced oil recovery (EOR) on a mature reservoir
- Emissions study and equipment design / build for stripper well production
- Fluid Flow through Packing Particles for different Modeling design.
- Mixed Gas Injection through the Porous Media.
- Dynamic Contact Angle (Temperature Effect)

### Grants:

- On spring 2024, Burk Royalty Co., LTD. ("BRC") production oil company on town agree to provide Dr. Elsharafi with grant which will cover all directly related costs to the Senior Design project "Emissions study and equipment design / build for stripper well production" and provide relevant data, materials, measurement and monitoring equipment. This project will be continue project for one more year. So far, the company paid **375\$** for the materials and supplies. Also, the company paid **\$500** to cover the travel cost and accumulation for **3** senior design students whom presented their work at SWPSC conference which hosted in Lubbock TX. The registration fee of **1600\$** waived because MSU Texas is a part of Texas Tech system..
- On summer 2024, Dr. Elsharafi received a grant of **\$20,000** with other faculty, Dr. Ilhan and Dr. Pokharel from Howmet Aerospace Company for Young Engineer Summer (YES) Camp.

- On Spring 2024, I collected **\$1000** as scholarship to one of our MBA Muslim student from the charity fund of Muslim Society of Wichita Falls Texas. The money was given to the student to help him to pay his tuition fee at MSU Texas.
- On Summer 2023, I received a grant of **\$20,000** with other faculty, Dr. Ilhan and Dr. Pokharel from Howmet Aerospace Company for Young Engineer Summer (YES) Camp.
- On Spring 2023, I worked with SPE chapter president, Ty Crass to provide fund which used to cover all Jesse Green trip to SWPSC conference which hosted in Lubbock TX. The cost was about **500\$** including registration fee, hotel cost, and travel cost. Also, SPE chapter provided Fund about **\$150** to cover all guest speaker visit cost to our engineering building. The fund used to pay for Lunch and gifts.
- On Fall 2023, Burk Royalty Co., LTD. (“BRC”) production oil company on town agree to provide me with grant which will cover all directly related costs to the SD project “Emissions study and equipment design / build for stripper well production” and provide relevant data, materials, measurement and monitoring equipment. This project will be continue project for one more year. So far, the company paid **375\$** for the materials and supplies.
- On Spring 2022, I collected **\$3000** as scholarship to our computer science Muslim students from the charity fund of Muslim Society of Wichita Falls. The money was given to three students equally. Each student got **\$1000**.
- On Fall 2021, **Mahmoud Elsharafi** received **\$6450** for Intramural Grant for project titled Experimental and Analytical Core Flooding Work for Formation Damage.
- On Spring 2018, **Mahmoud Elsharafi** wrote and sent Petroleum Engineering Certificate (PEC) Program Proposal at MSU including the cost of one student for the tuition fee (**\$10,000**) to Militia oil Company in Libya.
- On Spring 2018, **Mahmoud Elsharafi** worked with SPE officers and we collected donation fund around **890\$** to support SPE chapter activities.
- **Mahmoud Elsharafi** wrote more than **30** grants which has been accepted at Midwestern State University for the undergrad research and activity (**EURECA and/or UGROW**) forms.
- On September 15, 2017, **Mahmoud Elsharafi** wrote and sent Petroleum Engineering Certificate (PEC) Program Proposal at MSU including the cost of each student for both the tuition fee and insurance to Sirte Oil Company in Libya. In addition, I included the cost of **ten students** and the cost of their family insurance. The cost for the tuition fee and insurance for students only will be **\$120,000**.
- Acquisition of CNC Micromilling Workstation Capability at Midwestern State University **2017** National Science Foundation (NSF) Major Research Instrumentation (MRI) Program. PI: Dr. Jeong Tae Ok, Co-PI: **Dr. Mahmoud Elsharafi (\$168,825)** Rejected.
- **Mahmoud Elsharafi** (MENG), Packiaraj Arumugham (SOCW), and Attapol Kuanliang (CRJS) received a local grant of **\$4066**, approved by the Human Subjects in Research Committee (IRB).
- **Mahmoud Elsharafi** worked with the SPE chapter president and we collected some fund (**\$2000**). The fund used for students’ trip to the SPE annual meeting in Houston, Tx. Also we collected around **\$1000** from shirts sale for two years (**2016 and 2017**).
- **Since 2014, Mahmoud Elsharafi** wrote a different proposal for different oil company in Libya (Harouge oil company, Waha oil Company, Sirte Oil company, Akakus Oil Company, and National oil collaboration in Libya (NOC). I helped to bring **10** students from those company. The company’s paid more than **\$200,000** as a tuition fee for those students. **Seven** students graduated with the petroleum-engineering certificate. **Two** students finished the petroleum program and they finished a master program in geoscience. **One** Student graduated with Master Degree in MBA data analysis.



### List of Research Interest:

- Development of reservoir sweep efficiency (conformance control treatments).
- Minimize and remove formation damage, laboratory experiments, and research group leader.
- Chemical EOR methods, including polymer flooding, polymer-surfactant flooding, and combining between different chemical such as gel with surfactant.
- CO2 flooding, CO2 foam flooding, and combining between CO2 and preformed particle gel.
- Lab experiments of different chemical EOR methods.
- Waterflood Project–Design, monitoring and performance analysis.
- Reservoir modeling, simulation, and stimulation.
- Oilfield artificial lift systems (Electric Submersible Pumps, Gas Lift and Beam Pumps).
- Horizontal and vertical wells drilling, completion and optimization.
- Multiphase flow in porous media.
- Hydrocarbon recovery in fractured reservoirs, unconventional reservoirs, and heavy Oil recovery.
- Hydraulic Fracturing Design, and Shale Gas Development.
- Fluid Mechanics, Heat Transfer, and Energy Recovery

### Attended Conference, Exhibition, and Training Courses:

- Attended the Introduction to Ansys **CFD** Online Training on **Spring 2021**.
- Attended the **ABET** Online Training on **Spring 2021**.
- Attend the **ATCE 2018, SPE** Annual Technical Conference and Exhibition holds in Dallas, Texas, USA on 24-26 September 2018.
- Attended Magic Aire tour with the engineering students on Friday April 20, **2018**, Wichita Falls, Texas, USA.
- Attended the **Alliance Expo and Annual Meeting** on April 25, **2018**, Wichita Falls, TX.
- Attended the annual Texas Alliance of Energy Producers Expo, **April 25 and 26th, 2017**.
- Attended the **SMART board training** at Midwestern state university, **Summer 2017**.
- Attend the **Writing NSF or DoD Proposals Workshops at Co-Sponsored** with University of North Texas Health Science Center, April 1, **2016**, Ft. Worth, TX.
- Attend a training teaching skills course at the **27th National Effective Teaching Institute** on January 3-5, **2015**, at the Intercontinental Hotel in Austin, Texas. (Rebecca Brent, Richard Felder, Michael Prince,) 701 Congress Ave, Austin, TX 78701.
- Attend the artificial workshop prepared by **Ecometer Company** in Wichita Falls, Texas, September, 12, **2014**.
- Attend the **ALRDC** workshop which was about Artificial Lift (2014 Sucker Rod Pumping Workshop) hold on September, 17, **2014**, at Renaissance Hotel in Oklahoma City, Oklahoma.
- Attend the Fifteenth Annual **AAPG/SEG** Student Expo holds in Houston, Texas on 17-18 September **2012**.
- Attend the **ATCE 2012, SPE** Annual Technical Conference and Exhibition holds in San Antonio, Texas, USA on 8-10 October 2012.
- Attend the **ATCE 2011, SPE** Annual Technical Conference and Exhibition holds in Denver, Colorado, USA on 30 October – 2 November 2011.
- Attend the **ATCE 2009, SPE** Annual Technical Conference and Exhibition holds in New Orleans, Louisiana, USA on 4-7 October 2009.

### Organizations & Activities:

- I hosted an SPE talk event through zoom meeting on September 16, 2021. I created a zoom meeting link for Mr. Jason Wipf presentation. He is a Mechanical Engineer in Oil and Gas Industry with Steam Flo Group of Companies. He took about Engineering and Technical opportunities in the Oil and Gas industry to our students.
- I served as topic organizer and sessions chair for the International Mechanical Engineering Congress and Exposition **IMECE2020 and IMECE2021** conference for the Energy-Related Multidisciplinary.
- I served as a technical reviewer for Energies Journal, MDPI Journal, Journal of Petroleum Science and Engineering, and for **ASME 2021** International Mechanical Engineering Congress and Exposition (IMECE) conference.
- On September 15, **2020**, I met with David Hawkins, he is LLP Resident Assistant in Legacy Hall. He is reaching out to me because he is putting together a short video to showcase a handful of Midwestern's outstanding professors for his residents, and he record a video about me as an employee in Residence Life.
- I served as topic organizer and sessions chair for the International Mechanical Engineering Congress and Exposition **IMECE2019 and IMECE2020** conference for the Energy-Related Multidisciplinary.
- I served as a technical reviewer for Energies Journal, MDPI Book and Journal, MDPI AG, Journal of Petroleum Science and Engineering, Agricultural Development, and for **ASME 2019 & 2020** International Mechanical Engineering Congress and Exposition (IMECE) conference.
- Served on the PhD committee for a petroleum engineering student at Texas Tech University on Monday, 7, and **2018**. The research was about Effect of Composite Layering on Fracture Propagation.
- Ranged a student's field trip to the Halliburton location in Duncan, OK, May 4th, **2018**.
- Journal Reviewer for Intl. Journal of Environmental Research & Public Health, Fuel Journal, Petroleum Science Journal., and ERS Journal, The Open Petroleum Engineering Journal & Energy, American Chemistry Society (ACS) Jrnl. Energy & Fuels Jrnl., Materials Jrnl., Archives of Petroleum & Environmental Biotechnology Jrnl. 2016 International Conference on Energy Engineering and Environmental Protection, **IMECE 2017&2018** conferences.
- Organized and Co-organizer for **ASME** International Mechanical Engineering Congress & Exposition, **IMECE2017, 2018, 2019, 2020, 2021, 2022, and 2023** conferences.
- Associate Editorial Board for the Research & Development in Material Science Journal.
- Associate Editorial Board for the Juniper Online Journal Material Science.
- Reviewer Board Member for the Archives of Petroleum & Environmental Journal Biotechnology.
- Member and Adviser for SPE Chapter at Midwestern State University, Adviser for Saudi Students Chapter at Midwestern State University, Adviser for Muslim Student Association (MSA) at Midwestern State University, and Adviser for National Society of Black Engineers (NSBE) Chapter at Midwestern State University.
- Board member for the Muslim Community at Wichita Falls, Texas.
- Served on Campus Carry and International Education Committees at Midwestern state university.
- Vice president for the Midwestern Muslim Origination in Midland/Odessa.
- Member of American Chemical Society (ACS), Society of Exploration Geophysicists (SEG), American Association of Petroleum Geologists (AAPG), European Association of Geoscientists & Engineers (EAGE.), American Society of Mechanical Engineers (ASME), and Member of Society of Engineering Science (SES).
- Academic Editor: ERS Journal

- Libyan Students Volleyball Association in USA, Libyan Students Football Association in Hungary.
- Football Team Goalkeeper in Bright Star University in Braga- Libya and Muslim Community Soccer Activity at Wichita Falls, TX.