

MEWBOURNE SCHOOL OF PETROLEUM AND GEOLOGICAL ENGINEERING

Status Report Activity 2021

MEWBOURNE SCHOOL OF
PETROLEUM AND GEOLOGICAL
ENGINEERING
CENTENNIAL MONUMENT

Home to the nation's first
commercial oil well and a locus of
important early refinements in
petroleum engineering, Oklahoma
has been a destination for the
energy industry since the very
beginning of the 20th century.

In 1909, Oklahoma had been a state
for only twelve short years when
Leon Dennis English walked across
the stage at the University of
Oklahoma commencement and made
history as the first person in the
United States to earn a degree in
engineering geology. In the same
year, the University expanded
its energy curriculum to include
courses in petroleum technology.
The School of Petroleum

These early students seized their
opportunity to make a mark in
energy. They were the wildcaters,
the trailblazers, the pioneers we
will stand on today. The graduates
of our school share a proud
tradition and heritage. They have
earned respect and admiration as
they have served high distinctions—
all over the world. They lead
multinational corporations and
have founded hundreds of
successful independent companies.

In 2000, the historic and celebrated
school was renamed the Mewbourne
School of Petroleum and
Geological Engineering to honor
industry leader and distinguished
alumnus Curtis W. Mewbourne
of Tyler, Texas. His passion for
the energy industry, the University
of Oklahoma and the students of
the Mewbourne College of Earth
and Energy ensure that the legacy
started 100 years ago will continue.

The Mewbourne School of Petroleum
and Geological Engineering is
home to people, research, and
scholarship that shaped a century.
The school's influence and
contributions to the industry
began on the windy plains of
Oklahoma and the dusty backroads
of West Texas.

An international destination
for aspiring petroleum engineers—
from all continents and walks of
life, the Mewbourne School of
Petroleum and Geological
Engineering's influence extends
across the country and around
the world.
The legacy of the last century lives
on in us, the hearts of the next one
hundred years of

A Century of Unlimited Energy



MEWBOURNE COLLEGE OF EARTH AND ENERGY
MEWBOURNE SCHOOL OF PETROLEUM
AND GEOLOGICAL ENGINEERING
The UNIVERSITY of OKLAHOMA

MISSION

The mission of the Mewbourne School of Petroleum and Geological Engineering is to provide our students with educational experiences which allow them the opportunity to develop technical competence and intellectual perspective to function effectively in and continue professional growth during their careers. These experiences occur primarily through research, innovative classroom instruction, lab experiences, and student mentoring.

PROGRAM OBJECTIVES

Our alumni will have successful careers as engineers in oil and gas, government, or related industries by applying engineering judgement that is established on fundamentals and continual growth in their competencies.

Our alumni will serve society by involvement in professional activities that positively impact health, safety, and environment through ethical behavior and contemporary knowledge.

STUDENT OUTCOMES

Our students will attain the following:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

HONORABLE ACHIEVEMENTS



The Mewbourne School of Petroleum and Geological Engineering at the University of Oklahoma offers the following programs

B.S. Petroleum Engineering

Accelerated B.S./M.S. in Petroleum Engineering program

Accelerated B.S. in Petroleum Engineering/MBA program

M.S. Petroleum Engineering

M.S. Natural Gas Engineering and Management online program

M.S. Geological Engineering

Ph.D. Petroleum Engineering.

Ph.D. Geological Engineering



PROFESSIONAL STUDENT CHAPTERS

- OU Society of Petroleum Engineers Student Chapter strives to professionally enhance our student members while providing networking opportunities for the energy industry. SPE maintains an active role on campus by hosting social, philanthropic, and technical events.
- OU American Association of Drilling Engineers provides a forum for the dissemination of practical drilling technology and techniques to those interested in the drilling industry while promoting professionalism and respect with regards to the drilling industry, the environment, and the communities in which the drilling industry operates.
- Through participation in SPWLA sponsored activities, students receive exposure to the newest techniques and ideas coming from the field of petrophysics and well log analysis, as well as experience and opportunity available through networking with industry professionals..
- The Geothermal Rising Chapter at the University of Oklahoma allows students to further their knowledge in regards to geothermal energy as well as connect with professionals knowledgeable in geothermal. GRC hosts in-person and online events that welcome all students who are wanting to learn more about geothermal energy.
- Pi Epsilon Tau is an honor society for petroleum engineers that was founded in 1947 at OU. Its purpose is to foster a closer bond between its members and the petroleum industry, to broaden the scope of activities of its members, and to maintain the high ideals and standards of the engineering profession. Members are chosen on the basis of their scholastic accomplishments, leadership, and sociability.



2021 PETROBOWL CHAMPIONS



Marco Tulio Portella, Felipe Cruz, Juan Camilo Acosta

MPGE wins PetroBowl Championship for 5th time making us the only school ever to take home five PetroBowl championships.

WINNING YEARS

2021

2020

2010

2008

2007

STUDENTS PARTICIPATE



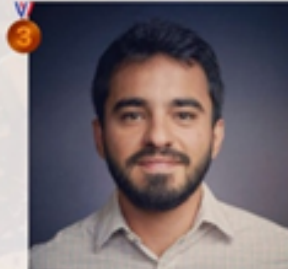
Petroleum Engineering

PhD



Sidi Mamoudou

Title: Impact of EOR Huff-n-Puff on Tight Rocks Storage



Felipe Adriaio Cruz

Title: A Joint NMR / GC-MS Framework to Investigate Hydrocarbon Vaporization During Huff-and-Puff EOR in Shales

Masters



Judah Odiachi

Title: Determination of Pore Fluid Salinity in Porous Media



Juan Acosta Montenegro

Title: Mechanical Studies of Volcanic Ash Beds in Unconventional Reservoirs



THE OU SPWLA STUDENT CHAPTER IS PROUD TO ANNOUNCE THE WINNERS OF THE SPWLA INTERNATIONAL STUDENT PAPER CONTEST.

A big thank you to all the faculty members who helped to make this possible.

If you are interested in getting to know more about the papers, feel free to contact OU SPWLA.



SPE STUDENT CHAPTER ACTIVITIES

2021 SPE WEEK

September 7 – Welcome: Exploring Careers in a Dynamic Energy Industry – Curtin Rubin

September 8 – Vision Board Event, session with 2021 SPE President, Tom Blasingame

September 9 – Career Workshop and Resume Reviews

September 10 – Facility Tour with Technip FMC

September 10 – Paint and Sip Social Event

TECHNICAL

April 22 – Unconventional Drilling Practices (Oxy)

July 22 – ComboCurve Training

July 29 – 31 – Python Workshop

September 30 – OU Petroleum Engineering Degree and the Industry Now and in 100 Years to Come

October 21 – Preparing for a Career in Midstream as a Petroleum Engineer (Schlumberger)

November 18 – Real-time Drilling and Completion Analytics, From Cloud Computing to Edge Computing, and their Machine Learning Applications (Devon Energy)

February 28 – North America Student Symposium (Co-chaired and planned the Symposium)

March 3 – Lunch and Learn with Baker Hughes (Baker Hughes)

March 4 – Technical Paper Competition (Only school in North America Region to qualify and compete for next stage)

March 24 – Buffalos and Barrels: Long Creek Unit Development (Continental)

PROFESSIONAL

April 30 – Professional Headshots

May 14 – Golf with OKC Section

August 27 – Shell Fall Fest

November 12 – International Student, Professor and Staff Meet and Greet

November 16 – Engineers Thanksgiving Feast

January 18 – Welcome Event and Membership Drive

Women Coalition – Women Coalition: Breaking the Bias

April 15 – Officers Award Night

COMMUNITY

April 10 – The Big Event

October 7 – Fall Food Drive

October 16 – Visit to WildCare Foundation

October 23 – Winter Cloth Donation Drive

November 14 – Thanksgiving Norman Food and Shelter

February 11 – 12 – Spring Food and Cloth Donation Drive

April 11 – The Big Event



SPWLA STUDENT CHAPTER ACTIVITIES

- April 7th, 2022 – Marie Lefranc, Schlumberger: Deep-Learning-Based Automated Sedimentary Geometry Characterization From Borehole Images
- February 10th, 2022 – Abraham Grader, Halliburton : The Digital Rock Bridge to the Reservoir
- December 2nd, 2021 – Ibrahim Milad, BP – Machine Learning to Predict Large Pores and Permeability in Carbonates Reservoirs
- November 19th, 2021 – Ivan Castaneda, Services and Processes Solution – Data Analytics
- October 21st, 2021 – Andrew Barry, Continental: RV/RH Anisotropy in Unconventional Formations: Resolving the Riddle of Resistivity
- October 14th, 2021 – IC3 Lab Tour
- September 15th, 2021 – Joe Comisky, Devon Energy : Interactive Petrophysics for Core and Log Analysis of Wells in the Forth Worth Basin
- September 2nd, 2021 – Dr. Zoya Heidari, UT Austin : Advanced Formation Evaluation of Organic-Rich Mudrocks, Honoring Rock Fabric and Geochemistry
- May 2021: International Student Paper Contest – 4 students from MPGE won 4 out of 9 awards.

STUDENT SUCCESS STORIES

- Student GRC team selected as finalists in DOE Geothermal Collegiate Competition
- Geothermal Resources Council 2nd place in DOE Geothermal Competition
- SPE President Karen Ochie won the prestigious SPE Egbert Imomoh Scholarship
- SPE External Liaison Chair David Nnamdi won the SPE OKC Scholarship
- SPE Secretary Zamakhosi Magagula won the Mewbourne School of Petroleum and Geological Engineering Outstanding Sophomore in 2021 and recently emerged as the OERB's 2022-2023 Petroleum Scholar

UNDERGRADUATE ENROLLMENT

MPGE Enrollment Demographics												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Undergraduates	428	483	586	797	966	1098	975	446	341	252	191	146
University Classification												
Seniors	163	221	223	254	307	329	345	244	178	119	79	57
Juniors	116	93	111	144	156	220	186	91	66	39	28	25
Sophomores	73	85	117	140	196	225	204	61	41	33	35	33
Freshman	76	84	135	259	307	324	240	50	56	61	49	31
Residency												
Resident	235	287	324	421	505	543	421	175	116	96	71	56
%	55%	59%	55%	53%	52%	49%	43%	39%	34%	38%	37%	38%
Non-Resident	106	106	106	144	247	307	378	156	140	108	66	82
%	25%	22%	25%	32%	32%	34%	38%	35%	41%	43%	35%	55%
International	87	90	118	127	152	177	182	115	85	48	54	10
%	20%	19%	20%	16%	16%	16%	19%	26%	24%	19%	28%	7%
Gender												
Male	360	408	495	688	822	943	836	375	277	216	164	130
Female	68	75	91	109	144	155	139	71	64	36	27	18
%	16%	16%	16%	14%	15%	14%	14%	16%	19%	14%	14%	12%



SCHOLARSHIPS

2021 - 2022	MPGE	OERB	MLS
Seniors	\$72,000	\$25,000	\$21,000
Juniors	\$48,000	\$12,000	\$6,000
Soph	\$32,000	\$2,500	\$15,000
Fresh	\$68,000	\$4,500	\$4,000
Total	\$220,000	\$44,000	\$46,000
All Combined \$310,000			

OERB Oklahoma Energy Resource Board Scholars

MLS Curtis W. Mewbourne Leadership Scholars

We extend our deepest gratitude to the individuals and companies who have generously contributed to the Mewbourne School of Petroleum and Geological Engineering.

2021 BS GRADUATING CLASS

Spring 2021

Mohamed Al Balushi
Mohammed Al Sakiti
Omar Al Suqri
Hannah Allen
Grant Conley
Seth Fitter
Paige Hill
Hunter Mackey
Qais Al Maqbali
Nathaniel Anthony
Brett Bormann
Jona Bujari
Thomas Doudica
Bennett Hall
Trent Robertson
Polina Churlova
Mukhtar Albaghli
Dustin West

Fall 2021

Mohammad Al hudaif
Faisal Aldhafeeri
Majed Aldughayshim
Omar Alfaleh
Tanner Atwood
Carver Breidenbach
Juan Jimenez Acevedo
Maxim Kasumov
Micholas Kerrihard
Doyeong Kim
Matthew McCartney
Dat Ninhy
Smit Patel
Pritom Saha
Zakery Short
James Styers

LEARNING IN THE FIELD



Field trip to visit CO2 fracking and injection operation with Dr. Salehi's course Subsurface Energy Storage Technologies



Mewbourne Oil Company Well Workover at MPGE Well Construction Technology Center Summer 2021



Externships Summer 2021

Ronnie K. Irani Center For Energy Solutions



- 23 PE Students
- 8 Weeks Summer Externship
- 6 Student Teams / 3 Faculty Mentors
- 1 Coordinators to Liaison with Industry
- All Teams Gave a Final Presentation
- Students Received \$2000 Stipend from MPGE
- Industry Partners: Charter Oak Production, Mewbourne Oil Co, Cimarex Energy, Continental Resources, ROX.

EMPLOYMENT

Employment Graduating Seniors

15 Graduating FA21 22 Graduating SP22

- 25 With Jobs
- 4 Without Jobs
- 8 Considering Grad School

Companies Hiring

Mewbourne Oil Co	7
Saudi Aramco	5
Gore Nitrogen	4
Oman Govt	5
ConocoPhillips	1
Baker Hughes	1
Assiduous Energy LLC	1
Schlumberger	1

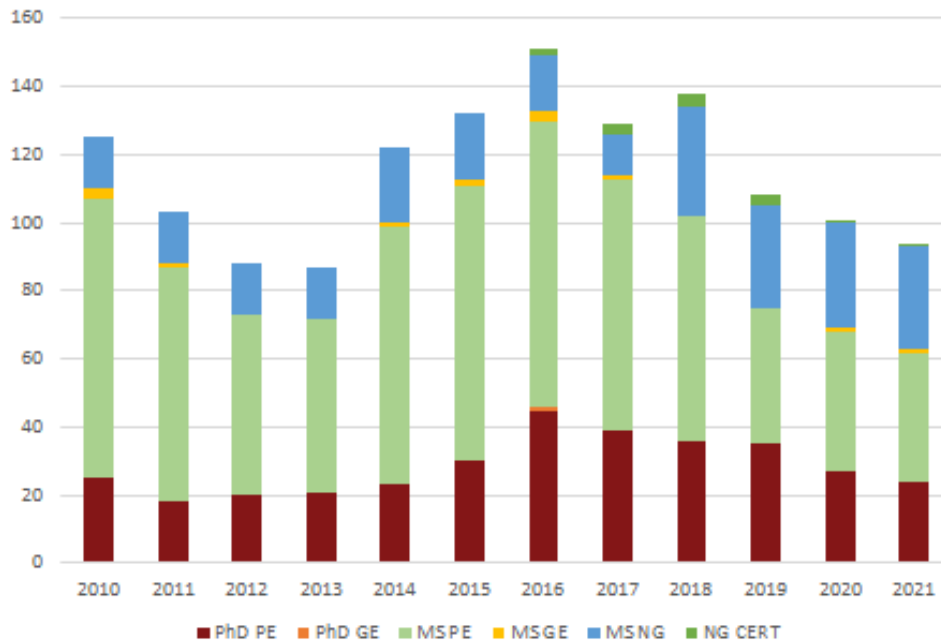
Internships and Externships SU21

- 40 Juniors SP21
- 15 Internships
- 23 Externships
- 14 Have Had Previous Internships

Most Petroleum Engineering students attend the Engineering Career Fair which is one of the largest career fairs on campus and is mostly geared toward technical majors. In 2021, 131 employers were recruiting and 804 students attended, 99 of which were Petroleum Engineering students. The national average salary for Petroleum Engineers increased 6% from last year to \$87,989.

GRADUATE PROGRAMS

Graduate Enrollment FA21



MS & PhD GRADUATING CLASS

Spring 2021

MS

Mark Dunseith
Sadam Hussain
Jake Yancey
Hanyan Zhang
Cesar Vivas Munar

PhD

Hussain Al Ramis
Musaab Elhag
Hao Xiong
Jarrett Wise

Summer 2021

MS

Yerzhan Assangaliyev

MS Natural Gas Engineering & Management

Fikayo
Falade
Alexander Ibojo
Aaron Imrie
Jeff Myers
Ikechukwu
Nwamordi
Pedro Dominguez
Olufunso Uansohia

PhD

Mohamed Elsafih
Behzad Hemami

Fall 2021

MS

Jun Acosta Montenegro
Oyindamola Obisesan
Michael Olubode
Aly Osman
Taylor Vincent

MS Natural Gas Engineering & Management

Ahmed Alghamdi
Victor Castillo
Cody Clay
Dereck Del Valle
Ayodele Ike
Jarred Meister
Juan Munoz
Bochukeh Ndifon
John Rafferty

PhD

Yuxing Wu

MPGE DIRECTOR



Director, Eberly Family Chair

Dr. Runar Nygaard

E-mail: runar.nygaard@ou.edu

- B.Sc., Geology, University of Oslo
- M.Sc., Geotechnics, University of Oslo
- Ph.D., Geomechanics, University of Oslo
- Wellbore Integrity
- Geomechanics
- Drilling Engineering

Dr. Runar Nygaard is the Director of the Mewbourne School of Petroleum and Geological Engineering, Eberly Family Chair, and Professor of Petroleum Engineering. He originally hails from Norway and completed his education at the University of Oslo, earning a doctorate degree in Geomechanics in 2004.

MPGE FACULTY ROSTER

FACULTY

Younane Abousleiman - Professor

- B.S. The American University of Beirut, Lebanon
- M.S., Columbia University, New York
- Ph.D. University of Delaware, Newark

Ramadan Ahmed - Professor

- B.S., Addis Ababa University
- M.S., Norwegian University of Science & Tech
- Ph.D., Norwegian University of Science & Tech

Deepak Devegowda - Professor

- B. Tech, Indian Institute of Technology
- M.S., Texas A&M University
- Ph.D., Texas A&M University

Mashhad Fahes - Associate Professor

- Lebanese University
- Ph.D., Imperial College London

Ahmad Ghassemi - Professor

- B.S. - University of Oklahoma
- M.S. - South Dakota School of Mines
- M.S. - University of Minnesota
- Ph.D. - University of Oklahoma

Hamidreza Karami - Assistant Professor

- B.S. - Sharif University of Technology
- M.S. - The University of Tulsa
- Ph.D. - The University of Tulsa

INTERESTS

- Poroelastic media
- Reservoir compaction
- Inclined boreholes

- Drilling fluid rheology and wellbore hydraulics
- Underbalanced and managed pressure drilling
- Drilling simulation
- Downhole instrumentation
- Degradation of cement and tubulars

- Energy analytics and machine learning
- Nano- and micro-scale flow modeling through porous media
- Unconventional reservoir engineering

- Hydrocarbon phase behavior under nanoconfinement
- Rock-fluid interactions for optimizing fracturing fluids
- Wettability & multi-phase flow in EOR & well
- Flow assurance around water-crude emulsions

- Geomechanics applied to petroleum and geothermal
- Reservoir development
- Modeling of hydraulic fracturing and faulting
- Reactive fluid flow in fractures
- Constitutive modeling for chemically-active rocks

- Production engineering
- Multiphase flow
- Artificial lift
- Flow assurance

MPGE FACULTY ROSTER

FACULTY

Rouzbeh Moghanloo - Associate Professor

- B.S. - Amirkabir Polytechnic University of Technology
- M.S. - Amirkabir Polytechnic University of Technology
- Ph.D. - University of Texas

Chandra Rai - Professor

- B.S. - Indian School of Mines
- M.S. - Indian School of Mines
- Ph.D. - University of Haw

Zulfiqar Reza - Associate Professor

- B.Tech. - Indian Institute of Technology
- M.S. - Bangladesh University of Engineering & Technology
- Ph.D. - University of Alberta

Saeed Salehi - Associate Professor

- B.S. - Petroleum University of Technology
- M.Eng. - University of Calgary
- Ph.D. - Missouri University of Science & Technology

Bor-Jier (Ben) Shiau - Professor

- B.S. - Chung Yuan Christian University
- M.S. - University of Oklahoma
- Ph.D. - University of Oklahoma

INTERESTS

- Modeling fluid through nano-scale pores in shale strata
- Enhanced oil recovery
- Fractional flow theory
- Multiphase flow in heterogeneous porous media
- Rock and mineral physics
- Reservoir characterization
- Petrophysics
- Advanced reservoir simulation and simulator development
- Multi-scale coupled systems modeling
- Accelerated computing
- Integrated reservoir modeling
- Well construction, integrity and well control
- Wellbore geomechanics, human factors, optimization, plugging, abandonment and decommissioning
- Deepwater drilling and technologies
- Enhanced oil recovery
- Chemical flooding
- Surfactant and colloid science for petroleum production

MPGE FACULTY ROSTER

FACULTY

INTERESTS

Baharak Sajjadi - Assistant Professor

- B.S.- Arak University
- M.S. Aral University
- Ph.D. University of Malaya

- Renewable Energies
- Carbon Conversion/Modification/Functionalization Technologies
- Computational Fluid Dynamics

Carl Sondergeld - Professor

- B.A. - Queens College
- M.A. - Queens College
- Ph.D. - Cornell University

- Rock mechanics
- Acoustic emissions
- Rock physics

Catalin Teodoriu - Professor

- M.S. - Oil and Gas University of Ploiesti
- Ph.D. - Oil and Gas University of Ploiesti
- Ph.D. - Clausthal University of Technology

- Drilling problems, Drilling Dynamics and failure analysis
- Well integrity, cementing and threaded connections
- Geothermal Well Construction and Geothermal Drilling

Ali Tinni - Assistant Professor

- B.S. - Cadi Ayyad University
- M.S. - University of Oklahoma
- Ph.D. - University of Oklahoma

- Petrophysics
- Rock Fluid Interaction

Xingru Wu - Associate Professor

- B.S. - China Petroleum University
- M.S. - University of Alaska Fairbanks
- Ph.D. - University of Texas

- Physics of multiphase flow in permeable media
- Enhanced hydrocarbon recovery
- Reservoir characterization
- Geothermal recovery

Musharraf Zaman - Professor

- B.S. Bangladesh University of Engineering & Technology
- M.S. Carleton University, Ottawa, Canada
- Ph.D. University of Arizona

- Geomechanics
- Rock Mechanics
- Constitutive Modeling
- Numerical Simulation

MPGE FACULTY ROSTER

EMERITUS FACULTY

Faruk Civan - Professor Emeritus

- M.E. - Technical University of Istanbul
- M.S. - University of Texas
- Ph.D. - University of Oklahoma

Roy Knapp - Professor Emeritus

- B.S. - University Kansas
- M.S. - University of Kansas
- D.E. - University of Kansas

Jean-Claude Roegiers - Professor Emeritus

- B.S. - Universite de Liege
- Ph.D. - University of Minnesota

Subhash Shah - Professor Emeritus

- B.S. - University of Baroda
- M.S. - University of New Mexico
- Ph.D. - University of New Mexico

Djebbar Tiab - Professor Emeritus

- B.S. - New Mexico Tech
- M.S. - New Mexico Tech
- Ph.D. - University of Oklahoma

INTERESTS

- Unconventional gas, condensate, oil reservoirs analyses & simulation
- Flow assurance and mitigation in reservoirs wells
- Oil and gas processing, transportation, & storage
- Microbial enhanced oil recovery
- Reservoir simulation and engineering
- Borehold stability
- Pore collapse mechanism
- Fracture toughness of rocks
- Drilling and well completions
- Stimulation
- Coiled tubing applications
- Non-Newtonian fluids characterization
- Well test analysis
- Petrophysics
- Reservoir characterization

MPGE FACULTY ROSTER

Natural Gas Engineering & Management Adjuncts

David Childers

- B.S. – University of Oklahoma
- M.S. – University of Oklahoma
- Ph.D. = University of Oklahoma
- Lead-Optimization-Engineer, Enable Midstream Partners

David Heskin

- B.S. – Pennsylvania State University
- Registered Professional Engineer – State of Colorado
- Consultant, Engineering, Project and Business Development, Technology Management

J. Mike Stice

- B.S. – University of Oklahoma
- M.B.A. – Stanford University
- I.D.D. – Sydney University
- Ed.D. – The George Washington University
- Dean, Mewbourne College of Earth & Energy

Dora Lopez

- B.S. Universidad Centroamericana
- Ph.D. Clemson University

Hamed Ghodusi

- B.Eng. Sharif University of Technology
- M.B.A. Sharif University of Technology
- Ph.D. Vienna Graduate School

Sade Ruffin

- B.S. Northeastern University
- M.S. Columbia University
- Ph.D. New Your University

David Ferris

- B.S. – University of Oklahoma
- M.S. – University of Oklahoma
- M.B.A – University of Oklahoma
- Ed.D. – University of Southern California
- Chief Sustainability Officer, Laredo Petroleum

Donald Shandy

- B.A. – University of Oklahoma
- J.D. – University of Oklahoma College of Law
- Attorney & Director, Crowe & Dunlevy Attorneys and Counselors at Law

Zhen Zhu

- B.B.A. - People's University of China
- M.A. - Bowling Green State University
- Ph.D. - University of Michigan
- Dr. Michael Metzger Chair Professor of Economics at UCO

Saleh Tabrizy

- B.A. Allameh Tabataba University
- M.Sc. Otto-Von-Guericke University of Magdeburg
- Ph.D. University of Wisconsin

Tom Poteet

- B.S. Oklahoma State University
- Vice President, Mesa Natural Gas Solutions
- Chief Technology Officer

Vahid Taghikhani

- B.Sc. Amirkabir University of Technology
- M.Sc. Amirkabir University of Technology
- Ph.D. Amirkabir University of Technology

Research Highlights



Research Publications 2021

114 Refereed Journal Articles

63 Conference Proceedings

5 Patent Disclosures

1 Book

1 Book Chapter

Faculty Publications

Abousleiman, Younane (Professor)

Refereed Journal Articles

Journal Article (Published)

Abousleiman, Y., Phan, D. T., Liu, C., Al Tammar, M., Han, Y. 2021. Application of artificial intelligent to predict Time-Dependent Mud-Weight Windows in Real Time. SPE Journal: 1-21. IPTC-19900-MS. <https://doi.org/10.2523/IPTC-19900-MS>.

Journal Article (Published)

Abousleiman, Y., Hur, J., Hull, K. L., Qomi, A, Javad, M. 2021. Reactive force field for modeling oxidative degradation of organic matter in geological formations. RSC Advances, 11 (47). <https://doi.org/10.1039/D1RA04397H>.

Conference Proceedings

Conference Proceeding (Published)

Abousleiman, Y., Han, Y., Chen, S. 2021. Engineering Charts for Predicting Breakdown Pressure for Finite-Length Wellbore Intervals. SPE Middle East Oil & Gas Show and Conference. SPE-204907-MS. <https://doi.org/10.2118/204907-MS>.

Conference Proceeding (Published)

Abousleiman, Y., Phan, D. Liu, C. 2021. Simulation of Pressure and Temperature-Dependent Fracturing Fluid Loss in Multi-Porosity Multi-Permeability Formations. Paper presented at the SPE Middle East Oil & Gas Show and Conference, event canceled, November 2021. SPE-204581-MS. <https://doi-org.ezproxy.lib.ou.edu/10.2118/204581-MS>.

Ahmed, Ramadan M. (Professor)

Refereed Journal Articles

Journal Article (Published)

Singh, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. CFD Analysis of Turbulent Flow of Power-Law Fluid in a Partially Blocked Eccentric Annulus. Energies, 14 (3), 731. <https://doi.org/10.3390/en14030731>.

Journal Article (Published)

Akita, E., Dyer, F., Drummond, S., Elkins, M., Duggan, P., Ahmed, R. M., Florence, F. 2021. Directional Drilling Automation Using a Laboratory-Scale Drilling Rig: SPE University Competition. SPE Drilling & Completion, 36 (1), 1-10. SPE-199640-PA. <https://doi-org.ezproxy.lib.ou.edu/10.2118/199640-PA>

Journal Article (Published)

Li, Y., Dong, S., Ahmed, R. M., Zhang, L., Han, B. 2021. Improving the mechanical characteristics of well cement using botryoid hybrid nano-carbon materials with proper dispersion. Construction and Building Materials, 270, 121464. <http://dx.doi.org/10.1016/j.conbuildmat.2020.121464>.

Journal Article (Published)

Elgaddafi, R., Ahmed, R. M., Osisanya, S. 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, 196, 107816. <https://doi.org/10.1016/j.petrol.2020.107816>.

Faculty Publications

Journal Article (Published)

Ahmed, S., Patel, H., Salehi, S., Ahmed, R. M., Teodoriu, C. 2021. Performance evaluation of liner dual barrier system in CO₂-rich geothermal wells. *Geothermics*, 95 (23), 102121. <http://dx.doi.org/10.1016/j.geothermics.2021.102121>.

Journal Article (Published)

Mohamed, A., Salehi, S. and Ahmed, R. M. 2021. Significance and complications of drilling fluid rheology in geothermal drilling: A review. *Geothermics*, 93, 102066. <https://doi.org/10.1016/j.geothermics.2021.102066>.

Journal Article (Published)

Mousavi, M. A., Sadeghi-Nik, A., Bahari, A., Jin, C., Ahmed, R. M., Ozbakkaloglu, T., de Brito, J. 2021. Strength optimization of cementitious composites reinforced by carbon nanotubes and Titania nanoparticles. *Construction and Building Materials*, 303 (303), 124510. <http://dx.doi.org/10.1016/j.conbuildmat.2021.124510>.

Journal Article (Published)

Tale, S., Ahmed, R. M., Elgaddafi, R., Teodoriu, C. 2021. Sulfide Stress Cracking of C-110 Steel in a Sour Environment. *Corrosion and Materials Degradation*, 3 (2), 376-396. <http://dx.doi.org/10.3390/cmd2030020>.

Journal Article (Published)

Govindu, A., Ahmed, R. M., Shah, S. N., Amani, M. 2021. The effect of inclination on the stability of foam systems in drilling and well operations. *SPE Drilling & Completion*, Vol. 36 (2), 263-280. <https://doi.org/10.2118/199821-PA>.

Journal Article (Published)

Obisesan, O., Ahmed, R. M., Amani, M. 2021. The Effect of Salt on Stability of Aqueous Foams. *Energies*, 14 (2), 279. <https://doi.org/10.3390/en14020279>.

Journal Article (Published)

Elgaddafi, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. A Mechanistic Model for Wellbore Cleanout in Horizontal and Inclined Wells. *SPE Drilling & Completion*, 36 (4): 832-848. SPE-204442-PA. <https://doi.org/10.2118/204442-PA>.

Journal Article (Published)

Awad, A. M., Hussein, I. A., Nasser, M. S., Karami, H., Ahmed, R. M. 2021. CFD modeling of particle settling in drilling fluids: Impact of Fluid Rheology and Particle Characteristics. *Journal of Petroleum Science and Engineering*, 199, 108326. <https://doi.org/10.1016/j.petrol.2020.108326>.

Journal Article (Published)

Mahmoud, H., Alhajabdalla, M., Nasser, M. S., Hussein, I. A., Ahmed, R. M., Karami, H. 2021. Settling behavior of fine cuttings in fiber-containing polyanionic fluids for drilling and hole cleaning application. *Journal of Petroleum Science and Engineering*, 199, 108337. <https://doi.org/10.1016/j.petrol.2020.108337>.

Journal Article (Published)

Elgaddafi, R., Ahmed, R. M., Shah, S. N. 2021. The Effect of Fluid Flow on CO₂ Corrosion of High-Strength API Carbon Steels. *Journal of Natural Gas Science and Engineering*, 86, 103739. <https://doi.org/10.1016/j.jngse.2020.103739>.

Journal Article (Published)

Alhajabdalla, M., Mahmoud, H., Nasser, M. S., Hussein, I. A., Ahmed, R. M., Karami, H. 2021. Application of Response Surface Methodology and Box--Behnken Design for the Optimization of the Stability of Fibrous Dispersion Used in Drilling and Completion Operations. *ACS Omega* 6 (4): 2513-2525. <https://doi.org/10.1021/acsomega.0c04272>.

Faculty Publications

Ramada Ahmed Continued

Conference Proceeding (Published)

Elgaddafi, R. M., Soriano, V., Ahmed, R., Osisanya S. 2021. The Essence of Horizontal Drilling Challenges in Depleted Reservoirs. Paper presented at the SPE Western Regional Meeting, Virtual, 20-22 April. SPE-200871-MS.

<https://doi.org/10.2118/200871-MS>.

Conference Proceeding (Published)

Vivas, C., Salehi, S., Ahmed, R., Li, G. 2021. Experimental Investigation of a Smart LCM Using a High-Temperature Flow Loop for Geothermal Drilling. Paper presented at the Geothermal Rising Conference, San Diego, California, USA, 3-6 October.

<https://doi.org/10.1016/j.petrol.2021.109535>.

Conference Proceeding (Published)

Ahmed, R., Hwang, J., Tale, S., Shah, S., Teodoriu, C. 2021. Shear Bond Strength of Oil Well Cement in Carbonic Acid. Paper presented at the Environment.GRC Workshop, San Antonio, Texas, USA.

<https://doi.org/10.1016/j.jcou.2018.07.001>.

Conference Proceeding (Published)

Thiessen, S., Han, O., Ahmed, R. M., Elgaddafi, R. 2021. An Experimental Study of Coefficient of Discharge for Consistent Hole Perforating and the Effect on Limited Entry Designs. Paper presented at the SPE Hydraulic Fracturing Technology Conference and Exhibition, Virtual, 4-6 May. SPE-204178-MS.

<https://doi.org/10.2118/204178-MS>.

Conference Proceeding (Published)

Elgaddafi, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. Mechanistic Modeling of Wellbore Cleanout in Horizontal and Inclined Wells. Paper presented at the SPE/CoTA well Intervention Conference and Exhibition, Virtual, 22-25 March. SPE-204442.

<https://doi.org/10.2118/204442-MS>.

Conference Proceeding (Published)

Mohamed, A., Salehi, S., Ahmed, R. 2021. "Rheological Properties of Drilling Fluids Containing Special Additives for Geothermal Drilling Applications. Paper presented at the Stanford Geothermal Conference, Stanford, California, USA, 15-17 February.

<https://doi.org/10.1016/j.geothermics.2021.102219>.

Devegowda, Deepak (Professor)

Refereed Journal Articles

Journal Article (Published)

Hardisty, L., Pranter, M. J., Devegowda, D., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., Gupta, I., Han, H., Dang, S., McLain, C., Larese, R. 2021. Stratigraphic variability of Mississippian Meramec chemofacies and petrophysical properties using machine learning and geostatistical modeling, STACK trend, Anadarko Basin, Oklahoma. Interpretation.

<https://doi.org/10.1190/INT-2020-0169.1>.

Journal Article (Published)

Miller, M., Pranter, M. J., Devegowda, D., Gupta, I., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., McLain, C., Larese, R., Packwood, J. 2021. Mississippian Meramec lithologies and petrophysical property variability, stack trend, Anadarko Basin, Oklahoma. Interpretation: Special Issue on STACK Play, Oklahoma. <https://doi.org/10.1190/INT-2020-0161.1>.

Faculty Publications

Journal Article (Published)

Gupta, I., Rai, C. S., Devegowda, D., Sondergeld, C. H. 2021. Fracture Hits in Unconventional Reservoirs: A Critical Review. SPEJ, 26 (1): 412-434. SPE-203839-PA. <https://doi.org/10.2118/203839-PA>.

Journal Article (Published)

Perez, F. A., Devegowda, D. 2021. Hydrocarbon Self-Diffusion and Assessing the Validity of Graham's Law under Nanoporous Confinement in Shales. Energy and Fuels, 35 (13): 10512-10518. <https://doi.org/10.1021/acs.energyfuels.1c00735>.

Conference Proceedings

Conference Proceeding (Published)

Zhang, H., Kasumov, M., Devegowda, D., Curtis, M. E. 2021. Do We Really Need Deep Learning? A Study on Play Identification using SEM Images. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5562-MS. <https://doi.org/10.15530/urtec-2021-5562>.

Conference Proceeding (Published)

Alzate, J. H., Devegowda, D. 2021. Seismically Inverted Geomechanic Properties as Key Rock Typing Enablers in the Barnett Shale Play. International Society of Rock Mechanics and Rock Engineering, No. ISRM-ISG-2021-11.

Conference Proceeding (Published)

Sakhardande, R., Devegowda, D. 2021. Data-Driven Causal Analyses of Parent-Child Well Interactions for Well Spacing Decisions. Paper presented at the SPE Hydraulic Fracturing Technology Conference and Exhibition, Virtual, May 2021. SPE-204165-MS. <https://doi.org/10.2118/204165-MS>.

Fahs, Machhad M. (Associate Professor)

Refereed Journal Articles

Journal Article (Published)

Elsafih, M., Fahs, M. M. 2021. Quantifying the Effect of Multi-Phase Flow on Matrix Acidizing in Oil-Bearing Carbonate Formations. SPE Prod & Oper, 36 (04): 795-806. SPE-205397-PA. <https://doi.org/10.2118/205397-PA>.

Journal Article (Published)

Elsafih, M., Fahs, M. M., Teodoriu, C. 2021. Quantifying the Effect of De-Emulsifiers on Acid Treatment in Carbonate Formations. Energies, 14 (4), 1148. <https://doi.org/10.3390/en14041148>.

Ghanbarnezhad-Moghanlo, Rouzbeh (Associate Professor)

Book (Published)

Moghanloo, R. 2022. Unconventional Shale Gas Development: Lessons Learned. Gulf Professional Publishing, 400.

Journal Article (Published)

Qi, M., Moghanloo, R., Su, X., Li, M. 2021. An Integrated Simulation Approach for Wellbore Blockage Considering Precipitation, Aggregation, and Deposition of Asphaltene Particles. SPEJ, 26 (5), SPE-205368-PA. <https://doi.org/10.2118/205368-PA>.

Faculty Publications

Journal Article (Published)

Su, X., Moghanloo, R., Qi, M., Yue, X. 2021. An Integrated Simulation Approach to Predict Permeability Impairment under Simultaneous Aggregation and Deposition of Asphaltene Particles. SPEJ, 26 (2): 959–972, SPE-205028-PA. <https://doi.org/10.2118/205028-PA>.

Conference Proceedings

Conference Proceeding (Published)

DaneshFar, J., Nnamdi, D., Moghanloo, R., Ochie, K. 2021. Economic Evaluation of CO₂ Capture, Transportation, and Storage Potentials in Oklahoma. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206106-MS. <https://doi.org/10.2118/206106-MS>.

Ghassemi, Ahmad (Professor)

Book Chapter (Published)

Sesetty, V. and Ghassemi, A. Numerical Simulation of Sequential and Simultaneous Hydraulic Fracturing. Effective and Sustainable Hydraulic Fracturing InTech. <http://dx.doi.org/10.5772/56309>.

Refereed Journal Articles

Journal Article (Published)

Kibikas, W., Ghassemi, A., Carpenter, B. M. 2021. Evaluating the mechanical properties of carbonate and evaporite caprocks in the Sichuan Basin. Journal of Asian Earth Sciences X. <https://doi.org/10.1016/j.jaesx.2021.100063>.

Journal Article (Published)

Tarasovs, S., Ghassemi, A. Self-similarity and Scaling of Thermal Shock Fractures. Physical Review E, 90 (1). <http://dx.doi.org/10.1103/physreve.90.012403>.

Journal Article (Published)

Hemami, B., Masouleh, S. F., Ghassemi, A. 2021. 3D geomechanical modeling of the response of the Wilzetta Fault to saltwater disposal. Earth and Planetary Physics, 5 (6): 559-580. <https://doi.org/10.26464/epp2021054>.

Journal Article (Published)

Liu, Z., Zhang, Z., Ghassemi, A. 2021. Bedding plane-embedded augmented virtual internal bonds for fracture propagation simulation in shale. Theoretical and Applied Mechanics Letters, 11 (3). <https://doi.org/10.1016/j.taml.2021.100253>.

Journal Article (Published)

Fu, P., Schoenball, M., Ajo-Franklin, J. B., Chai, C., Maceira, M., Morris, J. P., Wu, H., Knox, H., Schwering, P. C., White, M. D., Burghardt, J. A., Strickland, C. E., Johnson, T. C., Vermeul, V. R., Sprinkle, P., Roberts, B., Ulrich, C., Guglielmi, Y., Cook, P. J., Dobson, P. F., Wood, T., Frash, L. P., Huang, L., Ingraham, M. D., Pope, J. S., Smith, M. M., Neupane, G., Doe, T. W., Roggenthen, W. M., Horne, R., Singh, A., Zoback, M. D., Wang, H., Condon, K., Ghassemi, A., Chen, H., McClure, M. W., Vandine, G., Blankenship, D., Kneafsey, T. J. 2021. Close Observation of Hydraulic Fracturing at EGS Collab Experiment 1: Fracture Trajectory, Microseismic Interpretations, and the Role of Natural Fractures. Journal of Geophysical Research-Solid Earth, 126 (7). <https://doi.org/10.1029/2020JB020840>.

Faculty Publications

Journal Article (Published)

Lu, J., Ghassemi, A. 2021. Coupled Thermo-Hydro-Mechanical-Seismic Modeling of EGS Collab Experiment 1. *Energies*, 14 (2), <https://doi.org/10.3390/en14020446>.

Journal Article (Published)

Hu, L., Ghassemi, A. 2021. Laboratory-Scale Investigation of the Slippage of a Natural Fracture Resulting from an Approaching Hydraulic Fracture. *Rock Mechanics and Rock Engineering*, 54 (5): 2547-2558. <https://doi.org/10.1007/s00603-021-02398-y>.

Journal Article (Published)

Wang, Y., Zhang, Z., and Ghassemi, A. 2021. Modeling of thermo-poroelasticity by using discretized virtual internal bond. *Geothermics*, 91. <http://dx.doi.org/10.1016/j.geothermics.2020.102017>.

Journal Article (Published)

Li, Y. and Ghassemi, A. 2021. Rock Failure Envelope and Behavior Using the Confined Brazilian Test. *Journal of Geophysical Research-Solid Earth*, 126 (11). <https://doi.org/10.1029/2021JB022471>.

Journal Article (Published)

Gao, Q. and Ghassemi, A. 2021. The Impact of Layering and Permeable Frictional Interfaces on Hydraulic Fracturing in Unconventional Reservoirs. *SPE Productions and Operations*, 36 (4): 912-925. <https://doi.org/10.2118/195881-PA>.

Journal Article (Published)

Huang, K., Zhang, Z., and Ghassemi, A. 2021. Virtual multi-dimensional internal bonds model with fracture energy conservation for three-dimensional numerical simulation of laboratory scale fluid pressurized fracturing. *International Journal for Numerical and Analytical Methods in Geomechanics*, 45 (15): 2214-2234. <https://doi.org/10.1002/nag.3263>.

Karami Mirazizi, Hamidreza (Assistant Professor)

Refereed Journal Articles

Journal Article (Published)

Singh, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. CFD Analysis of Turbulent Flow of Power-Law Fluid in a Partially Blocked Eccentric Annulus. *Energies*, 14 (3), 731. <https://doi.org/10.3390/en14030731>.

Journal Article (Published)

Sharma, A., Bello, O., Teodoriu, C., Karami, H. 2021. Design and Implementation of a Laboratory Sucker Rod Pumping Unit Using Industry 4.0 Concepts. *Journal of Energy and Power Technology*, 3 (2), 1-1. <http://dx.doi.org/10.21926/jept.2102030>.

Journal Article (Published)

Elgaddafi, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. A Mechanistic Model for Wellbore Cleanout in Horizontal and Inclined Wells. *SPE Drilling & Completion*, 36 (4): 832-848. SPE-204442-PA. <https://doi.org/10.2118/204442-PA>.

Journal Article (Published)

Awad, A. M., Hussein, I. A., Nasser, M. S., Karami, H., Ahmed, R. M. 2021. CFD modeling of particle settling in drilling fluids: Impact of Fluid Rheology and Particle Characteristics. *Journal of Petroleum Science and Engineering*, 108326. <https://doi.org/10.1016/j.petrol.2020.108326>.

Faculty Publications

Journal Article (Published)

Mahmoud, H., Alhajabdalla, M., Nasser, M. S., Hussein, I. A., Ahmed, R. M., Karami, H. 2021. Settling behavior of fine cuttings in fiber-containing polyanionic fluids for drilling and hole cleaning application. *Journal of Petroleum Science and Engineering*, 199, 108337. <https://doi.org/10.1016/j.petrol.2020.108337>.

Journal Article (Published)

Alhajabdalla, M., Mahmoud, H., Nasser, M. S., Hussein, I. A., Ahmed, R. M., Karami, H. 2021. Application of Response Surface Methodology and Box--Behnken Design for the Optimization of the Stability of Fibrous Dispersion Used in Drilling and Completion Operations. *ACS omega*, 6 (4): 2513-2525. <https://doi.org/10.1021/acsomega.0c04272>.

Conference Proceeding (Published)

Chaves, G., Karami, H., Monteiro, D., Ferreira, V. 2021. Development of a Virtual Flowmeter as an Enhanced Alternative for Field Production Monitoring. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206259-MS. <https://doi.org/10.2118/206259-MS>

Conference Proceeding (Published)

Elgaddafi, R., Ahmed, R. M., Karami, H., Nasser, M., Hussein, I. 2021. Mechanistic Modeling of Wellbore Cleanout in Horizontal and Inclined Wells. Paper presented at the SPE/ICoTA Well Intervention Conference and Exhibition, Virtual, March 2021. SPE-204442-MS. <https://doi.org/10.2118/204442-MS>.

Nygaard, Runar (Professor)

Refereed Journal Articles

Journal Article (Published)

Issa, M. A., Hadi, F. A., Nygaard, R. 2021. Coupled reservoir geomechanics with sand production to minimize the sanding risks in unconsolidated reservoirs. *Petroleum Science and Technology*, 40 (9): 1065-1083. <https://doi.org/10.1080/10916466.2021.2014522>.

Journal Article (Published)

Duguid, A., Guo, B., Nygaard, R., Ramakrishnan, T. S., Chugunov, N. 2021. Monitoring well integrity at the Cranfield field phase III CO2 storage project. *International Journal of Greenhouse Gas Control*, 109, 103341. <https://doi.org/10.1016/j.ijggc.2021.103341>.

Conference Proceedings

Conference Proceeding (Published)

Hadi, F., Nygaard, R. 2021. Data Driven In-Situ Sonic Log Synthesis in Carbonate Reservoirs. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-1669.

Conference Proceeding (Published)

Barnett, L., Klein, K., Al Dushaishi, M., Nygaard, R., Hareland, G. 2021. Field Data Analysis and Modeling of Drillstring Vibrations to Identify Inefficiency in Deep Geothermal Drilling. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-2015

Faculty Publications

Conference Proceeding (Published)

Sharma, A., Al Dushaishi, M., Nygaard, R. 2021. Fixed bit rotary drilling failure criteria effect on drilling vibration. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-2083.

Conference Proceeding (Published)

Wise, J., Nygaard, R. 2021. Top of Cement Selection Results in Leakage Pathways of Cased Wellbores During Production. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-1296.

Ousseini Tinni, Ali (Assistant Professor)

Refereed Journal Articles

Journal Article (Published)

Swetal, P., Gupta, I., Ousseini Tinni, A., Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Spatial delineation of rock types in the Meramec formation by integrating core and seismic measurements, Loyal Area, Kingfisher Co, Anadarko Basin. SEG Interpretation. <https://doi.org/10.1190/INT-2020-0166.1>.

Conference Proceedings

Conference Proceeding (Published)

Odiachi, J., Tini, A. O., Sondergeld, C. H., Rai, C. S. 2021. Determination of pore fluid salinity in tight rocks without fluid extraction. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5679-MS. <https://doi.org/10.15530/urtec-2021-5679>.

Conference Proceeding (Published)

Odiachi, J., Adria Cruz, F., Ousseini Tinni, A. 2021. Experimental Study of Hydrocarbon Vaporization for EOR Applications in Shales. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5674-MS. <https://doi.org/10.15530/urtec-2021-5674>.

Conference Proceeding (Published)

Mamoudou, S., Tinni, A. O., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. Impact of EOR Huff-n-Puff on rock microstructure. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5664-MS. <https://doi.org/10.15530/urtec-2021-5664>.

Rai, Chandra S. (Professor)

Refereed Journal Articles

Journal Article (Published)

Patel, S., Gupta, I., Ousseini Tinni, A., Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Spatial delineation of rock types in the Meramec formation by integrating core and seismic measurements, Loyal Area, Kingfisher Co, Anadarko Basin. SEG Interpretation, 9 (2). <https://doi.org/10.1190/INT-2020-0166.1>.

Journal Article (Published)

Patel, S., Gupta, I., Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Spatial delineation of rock types in the Meramec formation by integrating core and seismic measurements, Loyal Area, Kingfisher Co, Anadarko Basin. Interpretation, 9 (2), 23-34. <https://doi.org/10.1190/INT-2020-0166.1>.

Faculty Publications

Journal Article (Published)

Montenegro, J. A., Dang, S., Sondergeld, C. H., Rai, C. S. 2021. Attribute analyses of acoustic emissions in hydraulic fracturing. *Interpretation*, 9 (4), 83-95. <https://doi.org/10.1190/INT-2021-0029.1>.

Journal Article (Published)

Hardisty, L., Pranter, M. J., Devegowda, D., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., Gupta, I., Han, H., Dang, S., McLain, C., Larese, R. 2021. Stratigraphic variability of Mississippian Meramec chemofacies and petrophysical properties using machine learning and geostatistical modeling, STACK trend, Anadarko Basin, Oklahoma. *Interpretation*, 9 (3). <https://doi.org/10.1190/INT-2020-0169.1>.

Journal Article (Published)

Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Core derived velocity systematics, Mississippian Meramec formation, Oklahoma. *SPE J*, 27 (01): 705–714. SPE-206753-PA <https://doi.org/10.2118/206753-PA>

Journal Article (Published)

Mukherjee, S., Dang, S. T., Rai, C. S., Sondergeld, C. H. 2021. Pore-type partitioning in unconventional tight reservoirs: impact on formation damage and long-term production. *SPE Res Eval & Eng*, 24 (03): 514–522. SPE-204217-PA. <https://doi.org/10.2118/204217-PA>

Journal Article (Published)

Miller, M., Pranter, M. J., Devegowda, D., Gupta, I., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., McLain, C., Larese, R., Packwood, J. 2021. Mississippian Meramec lithologies and petrophysical property variability, stack trend, Anadarko Basin, Oklahoma. *Interpretation: Special Issue on STACK Play, Oklahoma*, 9 (2). <https://doi.org/10.1190/INT-2020-0161.1>.

Journal Article (Published)

Tellez, J., Pranter, M. J., Sondergeld, C. H., Rai, C. S., Fu, J., Han, H., Dang, S., McLain, C. 2021. Mechanical stratigraphy of Mississippian strata using machine learning and seismic-based reservoir characterization and modeling, Anadarko Basin, Oklahoma. *Interpretation: Special Issue on STACK Play, Oklahoma*, 9 (2). <https://doi.org/10.1190/INT-2020-0167.1>.

Journal Article (Published)

Gupta, I., Rai, C. S., Devegowda, D., Sondergeld, C. H. 2021. Fracture Hits in Unconventional Reservoirs: A Critical Review. *SPE J*, 26 (01): 412–434. SPE-203839-PA. <https://doi.org/10.2118/203839-PA>.

Journal Article (Accepted)

Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Core derived velocity systematics, Mississippian Meramec formation, Oklahoma. *SPE J*, 27 (01): 705–714. SPE-206753-PA. <https://doi.org/10.2118/206753-PA>

Conference Proceedings

Conference Proceeding (Published)

Goyal, S., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. A comparative study of monotonic and cyclic injection hydraulic fracturing in dry tight rocks under triaxial stress. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Virtual, July 2020. URTEC-2020-2952-MS. <https://doi.org/10.15530/urtec-2020-2952>.

Conference Proceeding (Published)

Odiachi, J., Tini, A. O., Sondergeld, C. H., Rai, C. S. 2021. Determination of pore fluid salinity in tight rocks without fluid extraction. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, July 26–28, 2021. URTEC-2021-5679-MS. <https://doi.org/10.15530/urtec-2021-5679>.

Faculty Publications

Conference Proceeding (Published)

Mamoudou, S., Tinni, A. O., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. Impact of EOR Huff-n-Puff on rock microstructure. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5664-MS. <https://doi.org/10.15530/urtec-2021-5664>.

Conference Proceeding (Published)

Dang, S., Mukherjee, S., Sondergeld, C. H., Rai, C. S. 2021. Measurement of effective tortuosity in unconventional tight rock using nuclear magnetic resonance. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5118-MS. <https://doi.org/10.15530/urtec-2021-5118>.

Conference Proceeding (Published)

Acosta, J., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. Mechanical and microstructural studies of volcanic ash beds in unconventional reservoirs. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206227-MS. <https://doi.org/10.2118/206227-MS>.

Conference Proceeding (Accepted)

Dang, S. T., Mukherjee, S., Sondergeld, C. H., Rai, C. S. 2021. Measurement of effective tortuosity in unconventional tight rock using nuclear magnetic resonance. Paper presented at Unconventional Resources Technology Conference, Houston, Texas, 26-28 July 2021. <https://doi.org/10.15530/urtec-2021-5118>.

Conference Proceeding (Accepted)

Acosta, J., Curtis, M. E., Wick, W., Sondergeld, C. H., Rai, C. S. 2021. Study of creep behavior in Barnett shale using nanoindentation. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-2088.

Reza, Zulfiquar A. (Associate Professor)

Salehi, Saeed (Associate Professor)

Refereed Journal Articles

Journal Article (Published)

Alramadan, M., Salehi, S., Aljawad, M., Teodoriu, C. 2021. Numerical Modeling of Gas Migration through Cement Sheath and Microannulus. ACS Omega, 6 (50): 34931-34944. <https://doi.org/10.1021/acsomega.1c05566>.

Journal Article (Published)

Magzoub, M., Anyaezu, T., Salehi, S., Li, G., Fan, J., Teodoriu, C., Saleh, F. K., Taleghani, A. D. 2021. Evaluating sealability of blended smart polymer and fiber additive for geothermal drilling with the effect of fracture opening size. Journal of Petroleum Science and Engineering, 206, 108998. <https://doi.org/10.1016/j.petrol.2021.108998>.

Journal Article (Published)

Ahmed, S., Patel, H., Salehi, S., Ahmed, R. M., Teodoriu, C. 2021. Performance evaluation of liner dual barrier system in CO₂-rich geothermal wells. Geothermics, 95, 102121. <https://doi.org/10.1016/j.geothermics.2021.102121>.

Journal Article (Published)

Mohamed, A., Salehi, S., Ahmed, R. M. 2021. Significance and complications of drilling fluid rheology in geothermal drilling: A review. Geothermics, 93, 102066. <https://doi.org/10.1016/j.geothermics.2021.102066>.

Faculty Publications

Journal Article (Published)

Ugarte, E., Salehi, S. 2021. A Review on Well Integrity issues for Underground Hydrogen Storage (UHS). *Journal of Energy Resources Technology, Transactions of the ASME*. JERT-21-1702. <https://doi.org/10.1115/1.4052626>.

Journal Article (Published)

Vivas, C., Salehi, S. 2021. Screening of Lost Circulation Materials for Geothermal Applications: Experimental Study at High Temperature. *ASME J. Energy Resour. Technol.*, 144 (3), 033008. JERT-21-1856. <https://doi.org/10.1115/1.4053071>.

Journal Article (Published)

Vivas, C., Salehi, S. 2021. Rheological investigation of effect of high temperature on geothermal drilling fluids additives and lost circulation materials. *Geothermics*, 96, 102219. <https://doi.org/10.1016/j.geothermics.2021.102219>.

Journal Article (Published)

Ahmed, S., Salehi, S. 2021. Failure Mechanisms of the Wellbore Mechanical Barrier Systems: Implications for Well Integrity. *ASME J. Energy Resour. Technol.*, 143 (7), 073007. JERT-21-1060. <https://doi.org/10.1115/1.4050694>.

Journal Article (Published)

Hamza, A., Shamlooh, M., Hussein, I., Salehi, S. 2021. Impact of aluminum acetate particles size on the gelation kinetics of polyacrylamide-based gels: Rheological and molecular simulation study. *The Canadian Journal of Chemical Engineering*. <http://dx.doi.org/10.1002/cjce.24152>.

Journal Article (Published)

Eid, E., Tranggono, H., Khalifeh, M., Salehi, S. 2021. Impact of Drilling Fluid Contamination on Performance of Rock-Based Geopolymers. *SPE Journal*, 26 (06): 3626–3633. SPE-205477-PA. <https://doi.org/10.2118/205477-PA>.

Journal Article (Published)

Magzoub, M., Salehi, S., Hussein, I. 2021. Assessing the Relation between Mud Components and Rheology for Loss Circulation Prevention Using Polymeric Gels: A Machine Learning Approach. *Energies*, 14 (5), 1377. <https://doi.org/10.3390/en14051377>.

Journal Article (Published)

Ahmed, S., Salehi, S. 2021. Failure Mechanisms of the Wellbore Mechanical Barrier Systems: Implications for Well Integrity. *ASME J. Energy Resour. Technol.*, 143 (7), 073007. JERT-21-1060. <https://doi.org/10.1115/1.4050694>.

Journal Article (Published)

Magzoub, M., Salehi, S., Hussein, I. 2021. Investigation of Filter Cake Evolution in Carbonate Formation Using Polymer-Based Drilling Fluid. *ACS Omega*, 6 (9): 6231–6239. <https://doi.org/10.1021/acsomega.0c05802>.

Journal Article (Published)

Wu, Y., Patel, H., Salehi, S. 2021. Parametric Study of Mechanical Stresses within Cement Sheath in Geothermal Wells. *Geothermics*, 90, 102000. <https://doi.org/10.1016/j.geothermics.2020.102000>.

Journal Article (Published)

Magzoub, M., Salehi, S., Hussein, I., Nasser, M. 2021. Gelation Kinetics of PAM/PEI Based Drilling Mud for Lost Circulation Applications. *Journal of Petroleum Science and Engineering*, 200, 108383. <https://doi.org/10.1016/j.petrol.2021.108383>.

Conference Proceedings

Conference Proceeding (Published)

Mohamed, A., Vivas, C., Salehi, S., Ahmed, R., Li, G. 2021. Experimental Investigation of a Smart LCM Using a High-Temperature Flow Loop for Geothermal Drilling. *Geothermal Drilling Conference*.

Faculty Publications

Conference Proceeding (Published)

Shamlooh, M., Hamza, A., Hussein, I., Salehi, S. 2021. Investigation on the Effect of Mud Additives on the Gelation Performance of PAM/PEI System for Lost Circulation Control. Paper presented at the SPE Europec featured at 82nd EAGE Conference and Exhibition, Amsterdam, The Netherlands, October 2021. SPE-205184-MS.

<https://doi.org/10.2118/205184-MS>.

Conference Proceeding (Published)

Vivas, C., Salehi, S. 2021. Machine Learning Approach to Generate Synthetic Sonic Logs in Geothermal Wells. Geothermal Rising Conference.

Conference Proceeding (Published)

Vivas, C., Salehi, S. 2021. Wellbore Strengthening for Geothermal Applications: Experimental Study of Thermal Degradation of LCM to Address Wellbore Tensile Failure. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-2059.

Conference Proceeding (Published)

Vivas, C., Salehi, S. 2021. Real-Time Model for Thermal Conductivity Prediction in Geothermal Wells Using Surface Drilling Data: A Machine Learning Approach. Stanford Geothermal Conference.

Conference Proceeding (Published)

Mohamed, A., Salehi, S., Ahmed, R. 2021. Rheological Properties of Drilling Fluids Containing Special Additives for Geothermal Drilling Applications. Stanford Geothermal Conference.

Conference Proceeding (Published)

Shamlooh, M., Hamza, A., Salehi, S. 2021. Gelation Performance of PAM/PEI Polymer-Based Mud System for Lost Circulation Control. NSG2021 27th European Meeting of Environmental and Engineering Geophysics, 2021: 1-5.

<https://doi.org/10.3997/2214-4609.202120024>.

Shiau, Bor-Jier (Professor)

Refereed Journal Articles

Journal Article (Published)

Chen, C., Wang, S., Shiau, B.-J., Harwell, J. 2021. Polymer-Free Viscoelastic Fluid for Improved Oil Recovery. Fuel, 292 (3), 120331. <http://dx.doi.org/10.1016/j.fuel.2021.120331>.

Journal Article (Published)

Rattanaudom, P., Shiau, B.-J., Charoensaeng, A., Suriyaphadilok, U. 2021. Evaluation of Surfactant-Nanoparticles for Mitigation of Surfactant Loss and Effective Recovery of Waxy Crude Oil by Foam Flooding. Energy Fuels.

Conference Proceedings

Conference Proceeding (Published)

Hussain, S., Wu, X., Shiau, B.-J. 2021. Numerical Mechanistic Study of In-Situ CO₂ EOR – Kinetics and Recovery Performance Analysis. Dallas, TX, SPE.

Refereed Journal Articles

Sondergeld, Carl H. (Professor)

Refereed Journal Articles

Journal Article (Published)

Saleh, F. K., Teodoriu, C., Sondergeld, C. H. 2021. Review of NMR Studies for Oilwell Cements and Their Importance. *ChemEngineering*, 5 (2), 18. <https://doi.org/10.3390/chemengineering5020018>.

Journal Article (Published)

Patel, S., Gupta, I., Ousseini Tinni, A., Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Spatial delineation of rock types in the Meramec formation by integrating core and seismic measurements, Loyal Area, Kingfisher Co, Anadarko Basin. *SEG Interpretation*, 9 (2). <https://doi.org/10.1190/INT-2020-0166.1>.

Journal Article (Published)

Patel, S., Gupta, I., Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Spatial delineation of rock types in the Meramec formation by integrating core and seismic measurements, Loyal Area, Kingfisher Co, Anadarko Basin. *Interpretation*, 9 (2): 23-34. <https://doi.org/10.1190/INT-2020-0166.1>.

Journal Article (Published)

Montenegro, J. A., Dang, S., Sondergeld, C. H., Rai, C. S. 2021. Attribute analyses of acoustic emissions in hydraulic fracturing. *Interpretation*, 9 (4): 83-95. <https://doi.org/10.1190/INT-2021-0029.1>.

Journal Article (Published)

Hardisty, L., Pranter, M. J., Devegowda, D., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., Gupta, I., Han, H., Dang, S., McLain, C., Larese, R. 2021. Stratigraphic variability of Mississippian Meramec chemofacies and petrophysical properties using machine learning and geostatistical modeling, STACK trend, Anadarko Basin, Oklahoma. *Interpretation*, 9 (3). <https://doi.org/10.1190/INT-2020-0169.1>.

Journal Article (Published)

Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Core derived velocity systematics, Mississippian Meramec formation, Oklahoma. *SPE J*, 27 (01): 705-714. SPE-206753-PA <https://doi.org/10.2118/206753-PA>

Journal Article (Published)

Mukherjee, S., Dang, S. T., Rai, C. S., Sondergeld, C. H. 2021. Pore-type partitioning in unconventional tight reservoirs: impact on formation damage and long-term production. *SPE Res Eval & Eng*, 24 (03): 514-522. SPE-204217-PA. <https://doi.org/10.2118/204217-PA>.

Journal Article (Published)

Miller, M., Pranter, M. J., Devegowda, D., Gupta, I., Marfurt, K. J., Sondergeld, C. H., Rai, C. S., McLain, C., Larese, R., Packwood, J. 2021. Mississippian Meramec lithologies and petrophysical property variability, stack trend, Anadarko Basin, Oklahoma. *Interpretation: Special Issue on STACK Play, Oklahoma*, 9 (2). <https://doi.org/10.1190/INT-2020-0161.1>.

Journal Article (Published)

Tellez, J., Pranter, M. J., Sondergeld, C. H., Rai, C. S., Fu, J., Han, H., Dang, S., McLain, C. 2021. Mechanical stratigraphy of Mississippian strata using machine learning and seismic-based reservoir characterization and modeling, Anadarko Basin, Oklahoma. *Interpretation: Special Issue on STACK Play, Oklahoma*, 9 (2). <https://doi.org/10.1190/INT-2020-0167.1>

Faculty Publications

Journal Article (Published)

Gupta, I., Rai, C. S., Devegowda, D., Sondergeld, C. H. 2021. Fracture Hits in Unconventional Reservoirs: A Critical Review. SPE J, 26 (01): 412–434. SPE-203839-PA. <https://doi.org/10.2118/203839-PA>.

Journal Article (Accepted)

Fu, J., Sondergeld, C. H., Rai, C. S. 2021. Core derived velocity systematics, Mississippian Meramec formation, Oklahoma. SPE J, 27 (01): 705–714. SPE-206753-PA. <https://doi.org/10.2118/206753-PA>.

Conference Proceedings

Conference Proceeding (Published)

Goyal, S., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. A comparative study of monotonic and cyclic injection hydraulic fracturing in dry tight rocks under triaxial stress. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Virtual, July 2020. URTEC-2020-2952-MS. <https://doi.org/10.15530/urtec-2020-2952>.

Conference Proceeding (Published)

Odiachi, J., Tini, A. O., Sondergeld, C. H., Rai, C. S. 2021. Determination of pore fluid salinity in tight rocks without fluid extraction. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, July 26–28, 2021. URTEC-2021-5679-MS. <https://doi.org/10.15530/urtec-2021-5679>.

Conference Proceeding (Published)

Mamoudou, S., Tinni, A. O., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. Impact of EOR Huff-n-Puff on rock microstructure. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5664-MS. <https://doi.org/10.15530/urtec-2021-5664>.

Conference Proceeding (Published)

Dang, S., Mukherjee, S., Sondergeld, C. H., Rai, C. S. 2021. Measurement of effective tortuosity in unconventional tight rock using nuclear magnetic resonance. Paper presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Houston, Texas, USA, July 2021. URTEC-2021-5118-MS. <https://doi.org/10.15530/urtec-2021-5118>.

Conference Proceeding (Published)

Acosta, J., Curtis, M. E., Sondergeld, C. H., Rai, C. S. 2021. Mechanical and microstructural studies of volcanic ash beds in unconventional reservoirs. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206227-MS. <https://doi.org/10.2118/206227-MS>.

Conference Proceeding (Accepted)

Dang, S. T., Mukherjee, S., Sondergeld, C. H., Rai, C. S. 2021. Measurement of effective tortuosity in unconventional tight rock using nuclear magnetic resonance. Paper presented at Unconventional Resources Technology Conference, Houston, Texas, 26-28 July 2021. <https://doi.org/10.15530/urtec-2021-5118>.

Conference Proceeding (Accepted)

Acosta, J., Curtis, M. E., Wick, W., Sondergeld, C. H., Rai, C. S. 2021. Study of creep behavior in Barnett shale using nanoindentation. Paper presented at the 55th U.S. Rock Mechanics/Geomechanics Symposium, Virtual, June 2021. ARMA-2021-2088.

Faculty Publications

Teodoriu, Catalin (Professor)

Refereed Journal Articles

Journal Article (Published)

Alamadan, M., Salehi, S., Aljawad, M., Teodoriu, C. 2021. Numerical Modeling of Gas Migration through Cement Sheath and Microannulus. ACS Omega, 6 (50): 34931-34944. <https://doi.org/10.1021/acsomega.1c05566>.

Journal Article (Published)

Teodoriu, C., Bello, O. 2021. An Outlook of Drilling Technologies and Innovations: Present Status and Future Trends. Energies, 14 (15), 4499. <https://doi.org/10.3390/en14154499>.

Journal Article (Published)

Zachary, C., Bello, O., Teodoriu, C. 2021. Calculation and prediction of casing collapse strength based on a new yield strength acquisition method. Journal of Natural Gas Science and Engineering, 95, 104149. <https://doi.org/10.1016/j.jngse.2021.104149>.

Journal Article (Published)

Sharma, A., Bello, O., Teodoriu, C., Karami Mirazizi, H. 2021. Design and Implementation of a Laboratory Sucker Rod Pumping Unit Using Industry 4.0 Concepts. Journal of Energy and Power Technology, 3 (2), 1-1. <http://dx.doi.org/10.21926/jept.2102030>.

Journal Article (Published)

Sharma, A., Bello, O., Teodoriu, C., Karami Mirazizi, H. 2021. Design and Implementation of a Laboratory Sucker Rod Pumping Unit Using Industry 4.0 Concepts. Journal of Energy and Power Technology, 3 (2), 1-1. <http://dx.doi.org/10.21926/jept.2102030>.

Journal Article (Published)

Magzoub, M., Anyaezu, T., Salehi, S., Li, G., Fan, J., Teodoriu, C., Saleh, F. K., Taleghani, A. D. 2021. Evaluating sealability of blended smart polymer and fiber additive for geothermal drilling with the effect of fracture opening size. Journal of Petroleum Science and Engineering, 206, 108998. <https://doi.org/10.1016/j.petrol.2021.108998>.

Journal Article (Published)

Lambrescu, I., Teodoriu, C., Amani, M. 2021. Experimental and Numerical Investigations of Cement Bonding Properties. Materials, 14 (23), 7235. <https://dx.doi.org/10.3390/ma14237235>.

Journal Article (Published)

Arbad, N., Rincon, F., Teodoriu, C., Amani, M. 2021. Experimental investigation of deterioration in mechanical properties of oil-based mud (OBM) contaminated API cement slurries & correlations for ultrasonic cement analysis. Journal of Petroleum Science and Engineering, 205, 108909. <https://doi.org/10.1016/j.PETROL.2021.108909>.

Journal Article (Published)

Saleh, F. K., Teodoriu, C. 2021. Experimental Investigations on the Effect of Mixing Procedures on the Rheological Properties of Oilwell Cement Slurries. Journal of Energy Resources Technology, 144 (3), 033003. JERT-20-1294. <https://doi.org/10.1115/1.4051396>.

Faculty Publications

Journal Article (Published)

Ahmed, S., Patel, H., Salehi, S., Ahmed, R. M., Teodoriu, C. 2021. Performance evaluation of liner dual barrier system in CO₂-rich geothermal wells. *Geothermics*, 95, 102121. <https://doi.org/10.1016/j.geothermics.2021.102121>.

Journal Article (Published)

Saleh, F. K., Teodoriu, C., Sondergeld, C. H. 2021. Review of NMR Studies for Oilwell Cements and Their Importance. *ChemEngineering*, 5 (2), 18. <https://doi.org/10.3390/chemengineering5020018>.

Journal Article (Published)

Tale, S., Ahmed, R. M., Elgaddafi, R., Teodoriu, C. 2021. Sulfide Stress Cracking of C-110 Steel in a Sour Environment. *Corrosion and Materials Degradation*, 3 (2): 376-396. <http://dx.doi.org/10.3390/cmd2030020>.

Journal Article (Published)

Feng, M., Teodoriu, C., Schubert, J. 2021. The Transient Temperature Prediction in the Deepwater Riserless Well. *Journal of Energy Resources Technology*, 144 (2), 023002. JERT-20-1032. <https://doi.org/10.1115/1.4051032>.

Journal Article (Published)

Olayiwola, O., Nguyen, V., Bello, O., Osunwoke, E., Guo, B., Teodoriu, C. 2021. Validation of analytical model and identification of salt effect on wellbore temperature in underbalanced drilling. *Journal of Petroleum Exploration and Production Technology*, 12: 147-157. <http://dx.doi.org/10.1007/s13202-021-01353-5>.

Journal Article (Published)

Ahmed, S., Orth, V., Teodoriu, C. 2021. Designing in-house cathodic protection system to assess the long-term integrity of natural gas pipelines. *Journal of Natural Gas Science and Engineering*, 94, 104116. <https://doi.org/10.1016/j.jngse.2021.104116>.

Journal Article (Published)

Elsafih, M., Fahs, M. M., Teodoriu, C. 2021. Quantifying the Effect of De-Emulsifiers on Acid Treatment in Carbonate Formations. *Energies*, 14 (4), 1148. <https://doi.org/10.3390/en14041148>.

Conference Proceedings

Conference Proceeding (Published)

Teodoriu, C. 2021. A Discussion on Geothermal Well Integrity Using Long Term Experimental Bonding and Re-bonding Data. Stanford Geothermal Conference.

Conference Proceeding (Published)

Teodoriu, C., Bello, O., Vasquez, R., Melander, R. M., Esquitin, Y. 2021. Cementless Well Construction Opens the Full Control on Well Integrity for the Life of the Well. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206052-MS. <https://doi.org/10.2118/206052-MS>.

Conference Proceeding (Published)

Sharma, A., Bello, O., Karami, H., Teodoriu, C. 2021. Data Acquisition System (DAQ) and Real-Time Digital Twin Driven Sucker Rod Pumping Unit: Attaining Educational Learning Objectives and Field Operational Excellence. DGMK.

Faculty Publications

Conference Proceeding (Published)

Minescu, M., Dinita, A., Zisopol, D., Olteanu, A., Teodoriu, C. 2021. Experimental Investigations on Fiber Glass Composite Pipes with Application for Oil, Gas and Geothermal Well Completions. DGMK-Celle. <http://dx.doi.org/10.19225/211104>.

Conference Proceeding (Published)

Arbad, N., Rincon, F., Teodoriu, C., Amani, M. 2021. Mechanical Properties of API Class C Cement Contaminated with Oil-Based Mud OBM at Elevated Temperatures and Early Curing Time. Paper presented at the SPE International Conference on Oilfield Chemistry, The Woodlands, Texas, USA, December 2021. SPE-204302-MS. <https://doi.org/10.2118/204302-MS>.

Conference Proceeding (Published)

Teodoriu, C., Brown, W., Edwards, D., Healy, J., Oakes, A., Sandmann, R. 2021. Reducing Emissions in Hydraulic Fracturing for Geothermal Application with the Technology Revolution. Stanford Geothermal Conference.

Conference Proceeding (Published)

Abraham, J. J., Devers, C., Teodoriu, C., Amani, M. 2021. The Need for a Comprehensive Cement Database-A Novel Approach to Best Practices by Cataloging Cement Properties. Paper presented at the Abu Dhabi International Petroleum Exhibition & Conference, Abu Dhabi, UAE, November 2021. SPE-208112-MS. <https://doi.org/10.2118/208112-MS>.

Conference Proceeding (Published)

Teodoriu, C. 2021. Is the Casing-Cement Bonding the Key for Geothermal Well Integrity?. GRC Workshop 2021.

Conference Proceeding (Published)

Ahmed, R., Hwang, J., Tale, S., Shah, S., Teodoriu, C. 2021. Shear Bond Strength of Oil Well Cement in Carbonic Acid Environment. GRC Workshop 2021

Conference Proceeding (Published)

Lessley, J., Teodoriu, C. 2021. Low Enthalpy Geothermal Resource Utilization on Traditional Oil and Gas areas: An Example from Oklahoma. GRC Transactions, 45, 2021.

Conference Proceeding (Published)

Srivastava, S., Shah, R. N., Teodoriu, C. 2021. Natural Language Processing Based Information Extraction from Drilling Reports to Classify Drilling Dysfunction Severity. GRC Transactions, 45, 2021.

Conference Proceeding (Published)

Shenold, C., Teodoriu, C. 2021. Systematic Well Integrity Approach in HTHP and Geothermal Applications. GRC Transactions, 45, 2021.

Conference Proceeding (Published)

Teodoriu, C., Amani, M. 2021. The effect of cement additives on interfacial bonding shear strength properties. GRC Transactions, 45, 2021

Wu, Xingru (Associate Professor)

Refereed Journal Articles

Journal Article (Published)

Wu, X. 2021. Transient Temperature Impact on Deep Reservoir Fracturing. Geofluids, 2021. <https://doi.org/10.1155/2021/6653442>.

Faculty Publications

Journal Article (Published)

Wu, X. 2021. Laboratory Study on Casing Deformation during Multistage Horizontal Well Fracturing in Shale Gas Development and Strain based Casing Design. *J. of Natural Gas Science and Engineering*, 89. <https://doi.org/10.1016/j.jngse.2021.103893>.

Journal Article (Published)

Wu, X. 2021. Natural Gas Density under Extremely High Pressure and High Temperature: An Insight from Molecular Dynamics Simulations. *Chinese Journal of Chemical Engineering*. <https://doi.org/10.1016/j.cjche.2020.07.043>.

Journal Article (Published)

Wu, X., Chang, Q., Huang, L. 2021. Natural Gas Density under Extremely High Pressure and High Temperature: An Insight from Molecular Dynamics Simulations. *Chinese Journal of Chemical Engineering*. <https://doi.org/10.1016/j.cjche.2020.07.043>.

Conference Proceedings

Conference Proceeding (Published)

Hussain, S., Wu, X., Shiao, B. 2021. Numerical Mechanistic Study of in-situ CO₂ EOR-Kinetics and Recovery Performance Analysis. Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. SPE-206292-MS. <https://doi.org/10.2118/206292-MS>.

Conference Proceeding (Published)

Hussain, S., Wu, X., Shiao, B.-J. 2021. Numerical Mechanistic Study of In-Situ CO₂ EOR – Kinetics and Recovery Performance Analysis. Dallas, TX, SPE.

Conference Proceeding (Published)

Wu, X. 2021. Stochastic and imperial methods to determine the critical conditions for casing deformations in Sichuan shale gas development. Paper presented at the ARMA 55th US Rock Mechanics/Geomechanics Symposium, Houston, TX, USA, 20-23 June.

Conference Proceeding (Published)

Childers, D. R., Wu, X. 2021. Mitigating fault activation from injection activity through the application of the connected reservoir storage modell. Paper presented at the ARMA 55th US Rock Mechanics/Geomechanics Symposium, Houston, TX, USA, 20-23 June.

Zaman, Musharraf (Professor)

Refereed Journal Articles

Journal Article (Published)

Ghabchi, R., Rani, S., Zaman, M., Ali, S. A. 2021. Effect of WMA additive on properties of PPA-Modified Asphalt Binders Containing Anti-Stripping Agent. *International Journal of Pavement Engineering*, 22 (4): 418-431. <https://doi.org/10.1080/10298436.2019.1614584>.

Journal Article (Published)

Ali, S. A., Ghabchi, R., Zaman, M., Rani, S., Rahman, M. A. Laboratory Characterization of Moisture-Induced Damage Potential of Asphalt Mixes Using Conventional and Unconventional Performance-Based Tests. *Journal of Testing and Evaluation*, 1-18. <https://hdl.handle.net/11244/329574>.

Faculty Publications

Journal Article (Published)

Rahman, M. A., Ghabchi, R., Zaman, M., Ali, S. A. 2021. Rutting and Moisture-Induced Damage Potential of Foamed Warm Mix Asphalt (WMA) Containing RAP. *Innovative Infrastructure Solutions*, 6 (3): 1-11.

Journal Article (Published)

Ghabchi, R., Arshadi, A., Zaman, M., March, F. 2021. Technical Challenges of Utilizing Ground Tire Rubber in Asphalt Pavements in the United States. *Materials*, 14 (6), 4482. <https://doi.org/10.3390/ma14164482>.

Journal Article (Published)

Rahman, M. A., Zaman, M., Ali, S. A., Ghabchi, R., Ali, S. A., Ghos, S. 2021. Evaluation of Mix Design Volumetrics and Cracking Potential of Foamed Warm Mix Asphalt (WMA) Containing Reclaimed Asphalt Pavement (RAP). *International Journal of Pavement Engineering*: 1-13. <https://doi.org/10.1080/10298436.2021.1902522>.

Journal Article (Published)

Ghos, S., Ali, S. A., Zaman, M., Chen, D.-H., Hobson, K. R., Behm, M. 2021. Evaluation of Transverse Cracking in Flexible Pavements using Field Investigation and AASHTOWare Pavement ME Design. *International Journal of Pavement Research and Technology*. <http://dx.doi.org/10.1007/s42947-021-00037-x>.

Journal Article (Published)

Ghos, S., Ali, S., A, Zaman., M., Hobson, K. R., Mendez, Larrain, M. M., Behm, M. 2021. Factors Contributing to Fatigue Cracking in Flexible Pavements in Oklahoma: A Case Study Using Laboratory and Field Investigation and AASHTOWare Simulation. *Journal of Testing and Evaluation*, 50 (2). <http://dx.doi.org/10.1520/JTE20200652>.

Journal Article (Published)

Rahman, M. A., Ghabchi, R., Zaman, M., Ali, S. A., Arshadi, A. 2021. Laboratory Characterization of Rutting and Moisture-Induced Damage Potential of Foamed Warm Mix Asphalt WMA Containing RAP. *Innovative Infrastructure Solutions*, 6 (3): 1-11. <https://hdl.handle.net/11244/321119>.

Journal Article (Published)

Rani, S., Ghabchi, R., Zaman, M., O'Rear, E. A. 2021. Moisture-Induced Damage Potential of Asphalt Mixes Containing Polyphosphoric Acid and Antistripping Agent. *Road Materials and Pavement Design*, 1-21. <https://doi.org/10.1080/14680629.2021.2002180>.

Journal Article (Published)

Dong, J. N., Chen, M., Zaman, M. 2021. Interpretation of Displacement Fields Around Hydraulic Fracture Tip using Digital Image Correlation Method. *International Journal of Oil, Gas and Coal Technology*, 27 (4): 424-433.

Conference Proceedings

Conference Proceeding (Published)

Ghabchi, R., Zaman, M., Singh, D., Barman, M. 2021. Effectiveness of Using Polymer-Modified Asphalt Binders in Enhancing Fatigue Life of Asphalt Mixes Containing RAS and RAP. *International Conference of the International Association for Computer Methods and Advances in Geomechanics*, Springer, Cham, 213-219.

Faculty Publications

Conference Proceeding (Published)

Rahman, M. A., Zaman, M., Gerard, B., Shawn, J., Ali, S. A., Hobson, K. R. 2021. Application of Intelligent Compaction (IC) as a Quality Control Tool: An Oklahoma Experience. Paper presented in 16th International Conference of IACMAG (online), Torino, Italy, May 5-8, 2021. https://doi.org/10.1007/978-3-030-64514-4_22.

Conference Proceeding (Published)

Campos, R., Mendez Larrain, M., Zaman, M., Pozades, V. 2021. Relationships between Compressive and Splitting Tensile Strengths of Cast and Core High-Strength Concrete Cylinders. Paper presented at the GeoChina Conference, Nanchang, China, 19-21 July 2021.

Conference Proceeding (Published)

Hossain, Z., Bairagi, B., Zaman, M., Bulut, R. and Sumpter, B. 2021. Evaluation of Stripping Resistance of Organoclay-Modified Asphalt Binder and Aggregate Systems Using an Optical Contact Angle Analyzer. Paper presented at the GeoChina Conference, Nanchang, China, 19-21 July 2021. https://doi.org/10.1007/978-3-030-79647-1_5