

September, 2019

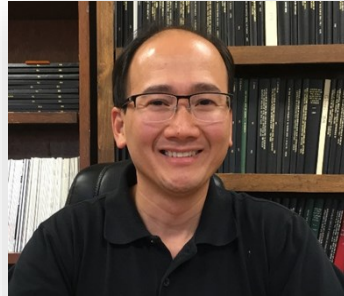
PETROLEUM ENGINEERING ANNUAL NEWSLETTER



Venice, CA Oil Field circa 1930

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Greetings from Tech!

It is my honor to announce to you that for the second time, Petroleum Engineering at NMT has been ranked as the Best Petroleum Engineering Degrees among other Petroleum Engineering Schools in the U.S. This ranking was carried out by College Choice Rankings, which uses five key criteria to evaluate a program including quality, reputation, affordability, value, and satisfaction.

Please join us in welcoming 12 new undergraduate students and 14 new graduate students into our program. Our enrollment is slightly down due to a high number of graduates last semester. We granted a total of 38 degrees last May 2019 including 27 B.S., 9 M.S., and 2 Ph.D. We foresee our student population to stabilize and to increase gradually starting this academic year.

In addition, we have some exciting news that we want to share with you:

- Kim Royle joined the Chemical and Petroleum departments as dual department secretary in October 2018. She is doing very well and is extremely helpful to both departments. Our students like her very much. Please welcome her to our department.

Message from Dr. Tan Nguyen, Chair

- Our SPE and AADE student chapters are going strong. The two chapters sent our students to the two national SPE and AADE conferences in Dallas and in Denver. The chapters organized two field trips for the members to visit an oil/gas drilling rig and participate in other activities in the Midland area. They held the annual 49ers golf tournament, clay shoot, etc. I personally want to congratulate our student chapters for helping our students and for supporting the department.
- Schlumberger has renewed the software licenses with an estimated value of \$86,000,000 for our department. Most of the Schlumberger commercial software for the industry including Eclipse, Pipesim, Olga, Drill-Bench, FrontSim Steamline, etc. are available for our students and faculty. Scotland-Based Petroleum Experts Limited also donated a \$2.4M software package to our department. Students will utilize this software to simulate multiphase flow, transient wells, flowlines, networks, geomechanical modeling, fracture modeling, etc.
- The AADE Permian Basin Chapter gave us a gift of \$55,000 to remodel/upgrade the classroom MSEC367 to a multi-functional conference and smart classroom. The room has been used extensively for video conferences, distance education classes, graduate seminars, and much more.
- Dr. Rahnema and myself have each received three-year projects with the focus on oil swelling when contacting CO₂ and the wellbore integrity for CO₂ wells. These projects are part of the Southwest Partnership project with PRRC as the principal investigator. Dr. Ji-hoon Wang, Production and Drilling Research Project (PDRP), and PRRC were awarded a \$1.2M project in three years. The main objective of the project is testing the newly developed sensors for detecting failures of ESPs and tubings.

I want to congratulate our faculty and staff for dedicating their time and efforts to maintaining the quality of the program. I also want to congratulate our 2018-2019 graduates who have been working very hard to earn their degree and to maintain Tech's reputation. Well done guys! I am looking forward to another successful year ahead.

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Dr. Hamid Rahnema and his research team have moved to their new lab in MSEC 105. This lab is specifically re-designed for experiments on secondary and tertiary recoveries. One area investigated in this group is to study the swelling effect and viscosity reduction of CO₂-Oil system.

In this research CO₂ is injected gradually in different percentage into a visual PVT cell – containing reservoir crude oil. The variation of crude oil properties are closely monitored and measured experimentally. Two valuable piece of equipment were donated By PRRC: HTHP viscometer (Fig.1) and visual PVT set up (Fig.2). This apparatus expand the department research capabilities to conduct experiments on reservoir fluid properties, steam-solvent injection, foam stability and etc.



Dr. Hamid Rahnema



Figure 1. HTHP Rolling Ball Viscometer



Figure 2. Ruska PVT Set up

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

FOR IMMEDIATE RELEASE
April 29, 2019

Contact: Susan Torres (505) 476-3226



Dr. Thomas Engler

Third Member of Oil Conservation Commission Named

SANTA FE: The Oil Conservation Commission (OCC) is fully appointed with the addition of Thomas Engler, PhD, PE as the third member. Engler was appointed to the commission by Energy, Minerals and Natural Resources Department (EMNRD) Cabinet Secretary Sarah Cottrell Propst.

Dr. Engler has been a faculty member at New Mexico Tech since 1999 and is currently a member of the Society of Petroleum Engineers. Dr. Engler holds a Bachelor of Science in Geology from New Mexico Institute of Mining and Technology, a Bachelor of Science in Petroleum Engineering from New Mexico Institute of Mining and Technology, a Master of Science in Petroleum Engineering from New Mexico Institute of Mining and Technology, and a Doctor of Philosophy in Petroleum Engineering from the University of Oklahoma.

The OCC is a three-member commission. By statute, it is comprised of the Oil Conservation Division (OCD) Director, an appointee of the State Land Commissioner, and an appointee of the Secretary of EMNRD. The current Chair is the Oil Conservation Division Director Adrienne Sandoval. The State Land Office Commissioner appointee is Director of Oil, Gas and Minerals Leasing Allison Marks.

"Dr. Thomas Engler's academic experience and deep knowledge of the issues will go a long way in helping the Oil Conservation Commission complete its mission," said EMNRD Cabinet Secretary Sarah Cottrell Propst.

The OCC is tasked with adopting rules to implement the Oil and Gas Act and hears appeals of EMNRD and OCD orders related to the act.

The Oil Conservation Commission has monthly meetings that are open to the public.

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The Energy, Minerals and Natural Resources Department provides resource protection and renewable energy resource development services to the public and other state agencies.
<http://www.emnrd.state.nm.us/>

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Dr. Jihoon Wang, Dr. Tan Nguyen and Dr. Robert Balch have been awarded a research project entitled “Development and field scale application of smart management for productivity enhancement during unconventional oil and gas well development” by the Korea Institute of Energy Technology Evaluation and Planning. For the next 3 years with the total budget of 1.2 million dollars, the Petroleum Engineering department and Petroleum Recovery Research Center will perform advanced analysis on ESP failures and pipeline leakages using AI/ML technologies with field scale applications.



Dr. Jihoon Wang

2018-2019 Photos



2019 SPE Denver Section Scholarship Recipients

From left to right: Josue Fernandez, Colton Howard, Steven Balbo, and Arzoo Rishad.



2019 Chevron Scholarship Recipients

From left to right: Duc Pham, Armando Lopez, Dung Bui, Marcia McMillan, Hersonamoretí Cruz, Edgard Parra, Ryan Warmke (Chevron), Michael Unomah (Chevron), Dylan Jetter, Lorenzo Yardman, Dillon Mann, and Steven Balbo.



2019 Regional SPE Paper Contest

From left to right: Michael Medulla, Andrew Bushman, Edgard Parra, Saul Díaz de Bonilla.



2019 AADE Conference Denver

*From left to right: Victor Lema, Balnur Mindygaliyeva, Dr. Tan Nguyen, Edgard Parra, Gustavo Sierra, Khiem Bui, Andrea Gallegos, Kien Nguyen, Carmin Vazquez, Georges Monatin, Pran Daneal, John Meyers, Matt Powell, Cory Frederick (Fasken Oil and Ranch),
Third Row: Don (Dung) Tran, Kevin Gomez, Eusebius Junior Kutsienyo, Jeronimo Valdez.*



2018 ATCE Dallas

From left to right: Michael Mario, Andrew Nguyen, Dr. Tan Nguyen, Danielle Ochoa, Sidra Javaid, Carmin Vazquez, Balnur Mindygaliyeva, Dr. Miao Zhang, Andrea Gallegos, Jennifer Essomba, Pran Daneal, Steven Balbo, Isaiah Ataceri, Wesley Davis, Wyatt Berger, Eusebius Junior Kutsienyo, Ryan Hurlburt, Andrew Bushman, Leslie Nelson, Mina Shaker, Hersonamoret Cruz, Lorenzo Yardman, Michael Medulla.



Student Chapter

The AADE Student Chapter will be making a visit to Midland, Texas where they will be given a rig tour by Fasken Oil and Ranch to attain a better understanding of rig equipment and how they work in synergy. The attending members will also make a stop at the Permian Basin Petroleum Museum which has a record of over 230 million years of history.

Our Chapter is also excited to announce their club's 1st Annual Cornhole Tournament, which will be held on the famous 49ers weekend of October 19th. The club officers and parent chapter have worked together to provide this event to New Mexico Tech and hope it brings a sense of competitiveness and fun to the entire campus.

The new officers of AADE have been working in collaboration with its parent chapter to bring more recruitment opportunities to New Mexico Tech to provide more internships and networking moments to club members in the upcoming Spring semester.



NMT's 2019 - 2020 AADE Student Chapter Officers

From left to right: Benjamin Adu-Gyamfi, Treasurer, Georges Monatin, Vice President, Armando Lopez, President, and Edgard Parra, Secretary.



2019 AADE MSEC 367 Remodel

This year the **AADE Permian Basin Parent Chapter** donated a very generous gift of \$55,000 to the NMT Petroleum Engineering department to completely renovate MSEC 367. We utilized that money to convert the classroom into a multi-functional SMART venue for teaching, conferencing, thesis defense, department events, and distance education.

We started the renovation in June of this year and it was finished just as the fall semester was getting underway. 367 is now equipped with state-of-the-art multi-media capabilities.

Our department is thrilled with the new classroom and will be putting it to good use for years to come!



Before



After





New Mexico Tech
SPE Student Chapter

2019-2020 NMT SPE Officer Team:

From Left to Right: Social Coordinator: Isaiah Ataceri, Treasurer: Herson Cruz, President: Danielle Ochoa, Vice-President: Steven Balbo, Membership Chair: Lorenzo Yardman, (Not Pictured Secretary: Jennifer Essomba)



The New Mexico Tech SPE Chapter is coming into the 2019-2020 year enthusiastic after an exciting year. The 2018-2019 academic year was especially busy for the NMT SPE Student Chapter. We kicked last year off by attending the 2018 Annual Technical Conference & Exhibition (ATCE) in Dallas, TX where we were presented with the Outstanding Student Chapter award. This year we are just as excited to receive The Student Chapter Excellence Award and will be present at 2019 ATCE in Calgary, Alberta, Canada at the end of September. Upcoming conferences will include the 2020 North American Student Symposium (NASS) held in Los Angeles, CA at USC, where we will have contestants in the SPE Student Paper Contest.

Every October NMT SPE participates in the Sarracino Middle School STEAM Night. We look forward to this event every year, as the middle schoolers show up eager and ready to learn. The last demonstration we gave was taking a core sample from different layers of soil and rock and showing the students why it's important for the oil and gas industry to evaluate subsurface samples. We will be participating again this year on October 3, 2019 from 5 PM to 7 PM at Sarracino Middle School.

The NMT SPE Chapter has found that it is necessary to begin fundraising early and often. We are working on small-scale fundraisers to support the Student Chapter activities. These fundraisers will include taco plate sales, bake sales, and more. Our biggest fundraiser for this year, like every year is the Annual Gold Rush Golf Scramble, which occurs during the 49ers celebration on October 18, 2019. Participants in the tournament include industry members, alumni, faculty, and students. We are actively looking for teams to sign up, so if you are interested please email nmtspe49ers@gmail.com. Every year the Student Chapter member volunteers are able to interact with the industry members in a casual setting. The money raised will be used to help assist in costs for future conferences and events. Upcoming events being planned include Dr. Chen Classic and Langdon B. Taylor Annual Awards Banquet. We would like to recognize the enthusiastic volunteers for their efforts in making all of these events successful!

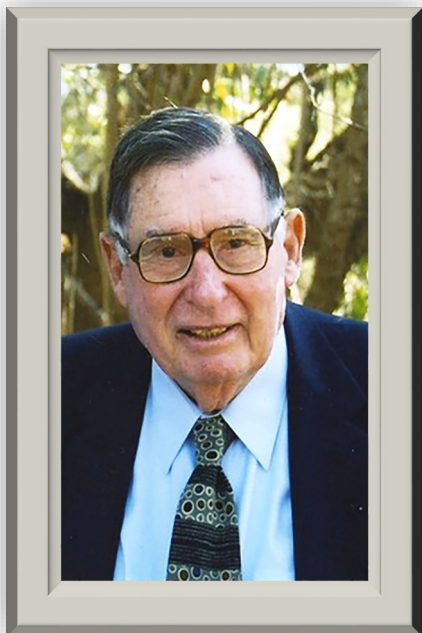


The NMT SPE Student Chapter would like to thank all sponsors for donations received!

Also in this year's news, the department spent over \$80,000 on splitting the Drilling and Well Completion labs into two separate rooms so that the students would have more room to do their research and experiments. The Drilling lab is now in MSEC 359 and the Well Completion lab is in MSEC 363.



IN MEMORIAM - PETROLEUM ENGINEERING ALUMNI



George C. Edgerton

George C. Edgerton (B.S. Petroleum Engineering, 1942), of Round Rock, TX, passed away on April 12, 2018 at the age of 98. He was born in El Paso, TX on October 31, 1919 to parents Elsie Louise (Noble) and Charles Abel Edgerton.

George married Lillian Jeanette Gunter on July 5, 1939 and they had six children. They celebrated 30 years together until Lillian's passing in 1969. George later married Betty Ann Bradley and gained two stepsons.

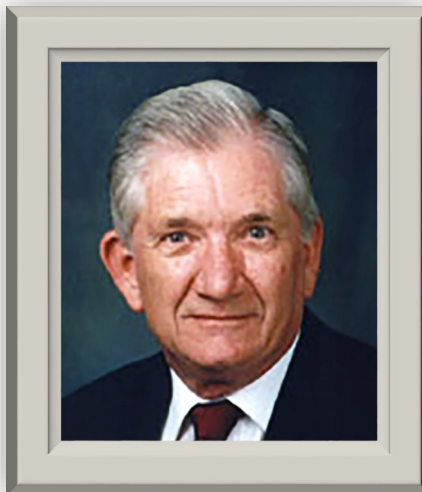
After obtaining his degree from the New Mexico School of Mines, George went to work for Humble Oil and Refining Co, later to become Exxon Corporation, as a petroleum engineer. He retired as District Superintendent in 1979 after 40 years of service.

While living in Abilene, he was an executive member of the United Way and found great joy in his service to others. George had many hobbies including his favorites, fishing, hunting, and golfing. He was an avid gardener and founder of the Horseshoe Bay Community Garden. He was an active member of St. Paul the Apostle Church in Horseshoe Bay, and up to the age of 88, he spent many hours delivering Meals on Wheels to the "elderly" of his community. He also served on the MUD Board and the POA of Horseshoe Bay.

Some of his greatest joys came when the family and grandkids came to Horseshoe Bay creating lifelong memories by playing tennis, swimming, putting on plays, singing and fishing. His children gifted him with a golf cart when he retired and there were many rides, parades and driving experiences throughout the years.

Preceding George in death were his wives, Lillian Gunter Edgerton and Betty Ann Bradley Edgerton; his son George Gunter Edgerton; and granddaughter Anna Kathleen Edgerton Woods.

Survivors include children, Joleen Edgerton Boyer and husband Gerald, Gerald Craig Edgerton and wife Jan, Frederick Thomas Edgerton and wife Claudia, Mark Andrew Edgerton and wife Sarah, Richard Vincent Edgerton and wife Mary Beth, and Sally Edgerton, wife of George Gunter Edgerton (d.); stepsons, Balon Buchanan Bradley and wife Anne, and Barrett Blake Bradley; 13 grandchildren; 3 step grandchildren and 26 great-grandchildren.



**George "Harvey"
Westbrook**

George "Harvey" Westbrook (B.S. Petroleum Engineering, 1960) passed away peacefully at home with his family, after a lengthy illness, on Tuesday, May 7, 2019.

Harvey, a U.S. Navy/Marine Corps veteran, spent 35 years with ConocoPhillips, working in the Rocky Mountain states, offshore Louisiana, Texas (including Houston headquarters), England, Scotland, and the North Sea. He retired in 1994 as Director of Regulatory and Government Affairs, Upstream, North American Production; his work involved resolving issues with state agencies, Native American tribes, and the Minerals Management Service.

In his interactions with New Mexico Tech, he played an instrumental role in fundraising to establish the Langdon Taylor Endowed Chair in Petroleum Engineering, was awarded the Alumni Association's Distinguished Service Award in 1992, and assisted the Petroleum Engineering Department in creating the Industry Advisory Committee, serving as Chair for three years.

After retiring from ConocoPhillips, Harvey served as President of the Alumni Association, 2012-2013. He also established the Earl and Bess Douglas Scholarship to honor Douglas family contributions to education in Socorro and throughout New Mexico.

Services will be held at 2:30 pm on Saturday, May 18, 2019, at St. Peters United Methodist Church, 20775 Kingsland Blvd, Katy, TX 77450.

In lieu of flowers, the family asks that donations be made to New Mexico Tech, either to the Class of 1960 Endowment fund or the Douglas, Earl and Bessie Family Scholarship fund. Online tributes may be made at: <https://advancement.nmt.edu/page.aspx?pid=304> (select desired fund from the Designation dropdown menu).

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✓ *Remember to save the date for 2020's
Langdon Taylor Banquet and the Chen
Classic Golf Tournament in April. Final date
and locations will be on your invitations.*

We're on the Web!

<https://nmt.edu/academics/petreng/>

