

# GOLD PAN

WINTER 2022

Alumni Magazine



**Lukas Lundin**

*B.S. Petroleum Engineering, 1981*

*Honorary Doctorate Petroleum Engineering, 2021*

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## 2021 PRESIDENT'S GOLF TOURNAMENT

Hosted by NMT President Stephen Wells, the September 2021 NMT President's Golf Tournament (PGT) was an all-around success. 97 teams played (including eight sponsored student club teams), more than \$230,000 was raised; and over 50 students from four student clubs volunteered their time during the two-day event.



*Team Ford perfect the art of selfies at a golf tournament: balance the camera on a golf club. (L to r) Julie Ford, Ephraim Ford, Robinson Ford, and Luther Richardson.*



*A beautiful day on the golf course, enjoyed by (l to r) Rugby Coach Gearoid Dunbar, Men's Rugby Club President Elijah Naranjo, eSports Coordinator Damian Banks, and Women's Rugby Club President Samantha Goldberg*

The annual New Mexico Tech PGT has now completed 27 years of successful (and fun!) competition and fundraising for the President's Tuition Assistance Fund. Tournament proceeds go directly to the fund; through the years the fund has supported over 387 students with more than \$908,000 worth of scholarships.

## NMT MEN'S RUGBY TEAM MAKES NATIONALS IN HOUSTON

The NMT Miners men's rugby team was accepted into the National Small College Rugby Organization in Fall 2018. Only three years later, in Fall 2021, the team earned a slot in the 2021 Small College Cohen Cup Men's Collegiate Rugby Championship Final Four in Houston, Texas. On December 10, 2021 the third-ranked NM Tech Miners played - and beat! - second-ranked St. John's (MN) in the semifinal match.

The Miners moved on to play first-ranked Christendom College (VA) for the Small College Cohen Cup National Championship on December 12, 2021. Miners coach Gearoid Dunbar commented before the game, "If I'm being honest it hasn't sunk in yet. This is a really big deal for the university. A massive deal. That makes me very proud to be the coach."

The New Mexico Tech Miners came close, but fell to the Christendom Crusaders 34-29 in the last few minutes of the Cohen Cup Final. Coach Dunbar said, "It's bittersweet because we played one of our best games all season and it just wasn't meant to be. Nobody has heard of us before, but we certainly made sure they know who we are now."

Congratulations to the Miners and Coach Dunbar for their amazing run to the national finals!



*NMT Men's Rugby Club members in Houston, December 12, 2021*

# A LETTER SPARKS A TREASURE TROVE OF MEMORIES

In September 2021, The NMT President's Office received an email seeking help in finding information about a former NMT employee, **Marvin Lamar Kempton**. For 40 years Lamar Kempton was the Director (and in many ways the architect) of the Terminal Effects Research and Analysis (TERA) organization, better known today as the Energetic Materials Research and Testing Center (EMRTC).

*Dear President Wells,*

*While completing a 4th grade school project, my nine year-old son and I came across the [2013 Summer Gold Pan] while searching online for my grandfather, **Lamar Kempton** (1920-1994). Lamar was referred to as the "original King of the Mountain" in the 2013 Gold Pan piece by Valerie Kimble about NMT President Daniel Lopez and others.*

*I have many fond memories of rocks and minerals in Lamar's office there at Tech, and informally exploring tanks and other war relics near M Mountain. Lamar would gain access to these areas by a flick of the hand at the guarded gates.*

*My grandparents lived up on the hill above campus at 1201 Apache Drive. Lamar hauled in a large mushroom shaped rock [photo]. Socorro is where my parents attended high school and met. The original hand-made Chief in the high school floor was crafted by my uncle Stuart, Lamar's eldest son.*

*If there are still people there who can share any literature or stories about my grandfather, my kids would love it. As would my nephews. And my first cousins and their children. Some of us first cousins are becoming grandparents ourselves.*

*Lamar passed away before the internet really took hold of the world's stories. Thus it is lovely to see him on the internet, but I'm sure there is much more. Other than my experience as his granddaughter and the few very special newspaper articles clipped into the family album, I don't know much about his career.*



*"He hauled in a large table-shaped rock to the front yard where his family gathered for decades to enjoy a picnic and some cold watermelon on a warm summer evening."*

*Sincerely,  
Stephani Crespin  
Granddaughter to Lamar Kempton*

The Advancement Office provided the family with a few photos and memories and offered to publish their search in the Gold Pan. Inspired, the family conducted their own extended treasure hunt. They found and assembled several historical documents and personal snippets to share with us.

We would like to share some of the treasures they found with our readers (see next page) for two reasons:

First, do any of our readers have memories of Lamar Kempton they can share with the family? Photos? Stories? If so, send them to [advancement@nmt.edu](mailto:advancement@nmt.edu) (or mail them to Advancement, 801 Leroy Place, Socorro, NM 87801) and we'll make sure they're sent to the family for their archives.

Second, we hope this inspires alumni and friends to look into their own NMT family histories. Do you have stories or photos or documents of your experiences at NMT? A relative's experiences? An ancestor's? **We want to preserve ephemeral moments of NMT history; major or minor events that may not have made it into official (i.e., searchable) online documents.**

We will be creating an archive on our Advancement website for stories, histories and memories of NMT alumni, staff, faculty, and places (*we're starting with Kempton and a few other notable alumni memories recently shared with us*). Send us your digital photos, scan your fading documents, write up your memories for us to preserve and share digitally with alumni and friends. *Note: The Office for Advancement reserves the right to select which memories are published.*



# MARVIN LAMAR KEMPTON - AN NMT LIFE

## Family / Personal

**Marvin Lamar Kempton** was born September 5, 1920, in Lone Star, AZ. Inspired by his parents to mountaineer, Lamar had his own mine and tended to two cabins during his time off of work in the Magdalena mountains.

Lamar married Leva Gene Stewart in 1940; they had four children: Stuart (now deceased), Pamela, Brent, and Wes,

Two of Brent's children attended NMT. **Nathan Kempton** attended prior to transferring to BYU Idaho in 2006 to finish his degree in Electrical Engineering. **Jared Kempton** earned a B.S. in Basic Science in 2006 and started his career in Chemical Engineering but became a teacher, earning a Master for Science Teachers in 2013. He is one of those teachers who makes a difference in his students' lives.



*The Kempton family (1965 photo)*

In his free time, Lamar loved tending to his garden at home in Socorro (which included raspberries and cherry tomatoes) as well as his lawn and rock collection (see photo previous page).

Lamar befriended a roadrunner whose visits were rewarded with cheese; he trained the roadrunner to come through the kitchen door to quickly retrieve its snack.

## Education / Career

Lamar attended the University of Arizona, earning a B.S. in Mechanical Engineering in 1942 and then was awarded an Honorary Master's in Engineering by U of AZ in 1958.



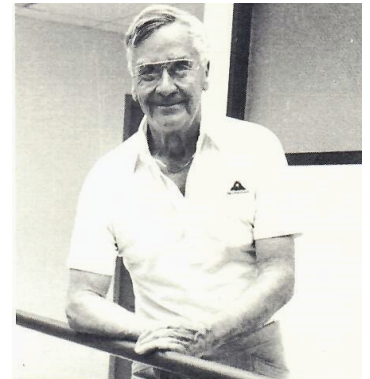
*Secretary of the Navy presents the Distinguished Public Service Award to Kempton, 1957*  
**Official Photograph U.S. Navy**

In the early 1940's he worked for an aircraft manufacturing plant in Goodyear, AZ writing engineering specs, standards, and process control. In 1946 (or possibly 1949), at the invitation of then-NMT President Workman, Lamar began a robust 40-year career as Director of Terminal Effects Research and Analysis (TERA). A business card notes his job title was "Director of TERA, Director Industrial/Research Park, Senior Research Engineer." According to his TERA bio he was also internationally recognized as an authority in ordnance and weapon systems design, testing and evaluation.

He held a number of patents, for original ordnance components and was originator of many warhead design concepts, including rod-fragment controlled-motion warhead, selectively aimable warhead, and metallic-fuel-enhanced, focused-gas warhead.

In August, 1957 (photo left), the Secretary of the Navy granted him a Distinguished Public Service Award for his outstanding services to the Department of the

Navy in the fields of scientific research and development of a new type of warhead of significantly improved lethality against aircraft, citing "the first real break-through in explosives warhead design since the conception of guided missiles."



*Lamar Kempton, 1986*  
**Photo by Defensor Chieftain**

TERA is credited with bringing two major companies to the Institute's 1980's research park – Aerojet Ordnance Company and Honeywell, Inc.'s Defense Systems Division.

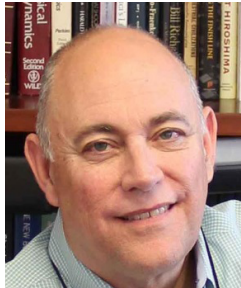
Lamar retired from TERA on June 30, 1987 and passed away on September 6, 1994.

# 49ERS 2021 - THE ROARING TWENTIES

49ers returned with a roar - on campus, in person, and online. Homecoming traditions included a host of activities, competitions, and celebrations. Attendees could Paint the M, watch the parade, tailgate at rugby and soccer, enjoy a free pancake breakfast, compete in mining challenges or a slide rule challenge, and top it all off with live music.

The 2021 Alumni Awards were presented during 49ers at the President's Reception. Honorees were:

**Techie of the Year**  
Dr. Van Romero



**Rising Star**  
Zoë Havlena



**Faculty-Alumni Ambassador**  
Dr. Sharon Sessions



**Philanthropist of the Year**  
Dr. Elise Brower

Read more about the awards and recipients at [https://www.nmt.edu/advancement/award\\_recipients.php](https://www.nmt.edu/advancement/award_recipients.php)

Alum **Richard Miller** (B.S. Petroleum Engineering, 1967) shared his homage to slide rules, one of the Heritage Competition Events at 49ers.

The idea of a slide rule competition is intriguing. When I graduated in '67 there were no electronic calculators; everyone used slide rules. I still have mine on a bookshelf. There was a guy down the hall in West who had a K&E that was three feet long and he was always saying he could get answers out to 6 decimal places. We gave up trying to argue with him.

Our consulting firm used to publish a newsletter for our clients and friends; several years ago (1998 actually) I wrote an *Ode to a Primitive Device* which I thought you might enjoy.

I think that there will never be  
A computer to match my K&E  
A primitive device made from a tree  
I think mine was mahogany.

It could multiply or divide  
Then do logs on the other side  
It worked in daylight and in gloom  
In the field or in my room.

It gave me answers without sound  
And never told me "Files Not Found"  
PC's are fast and sometimes svelte  
But I still can't hang one on my belt.

The add-on was a leather case  
And I had no need to interface  
With Microsoft, Corel, or Norton  
They weren't around, they weren't important.

Service was easy, to make it move,  
Talcum powder in the grooves.  
The manual for my old slip-stick  
Was a pamphlet just one-eight inch thick

Slide rules aren't fast, nor are they cool  
Engineers now have a quicker tool;  
But as I watch my TV screen  
A slide rule brings home Apollo 13.



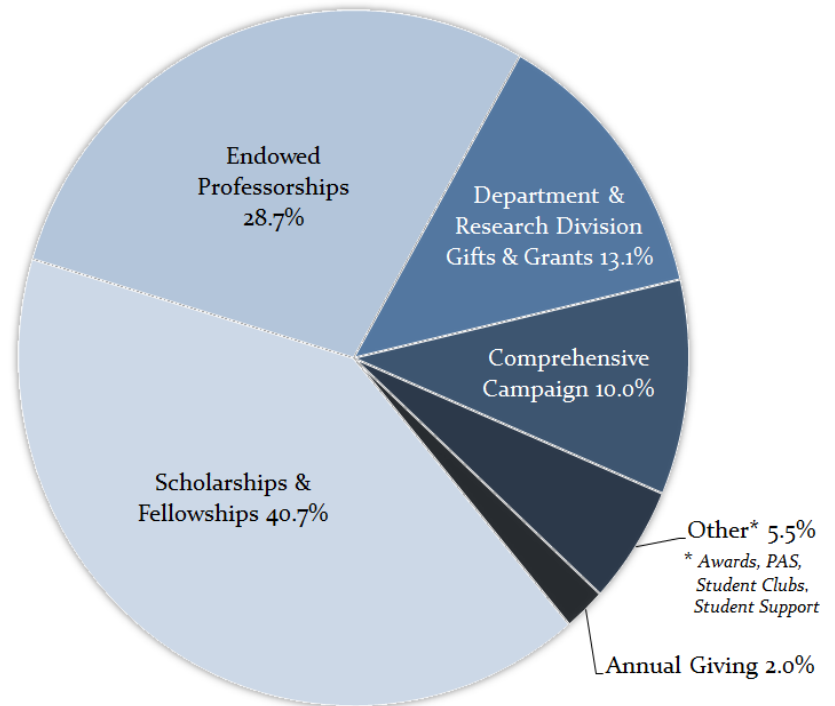
# ANNUAL REPORT FISCAL YEAR 2021

## OFFICE FOR ADVANCEMENT & NEW MEXICO TECH FOUNDATION

### Total Donations July 1, 2020 - June 30, 2021

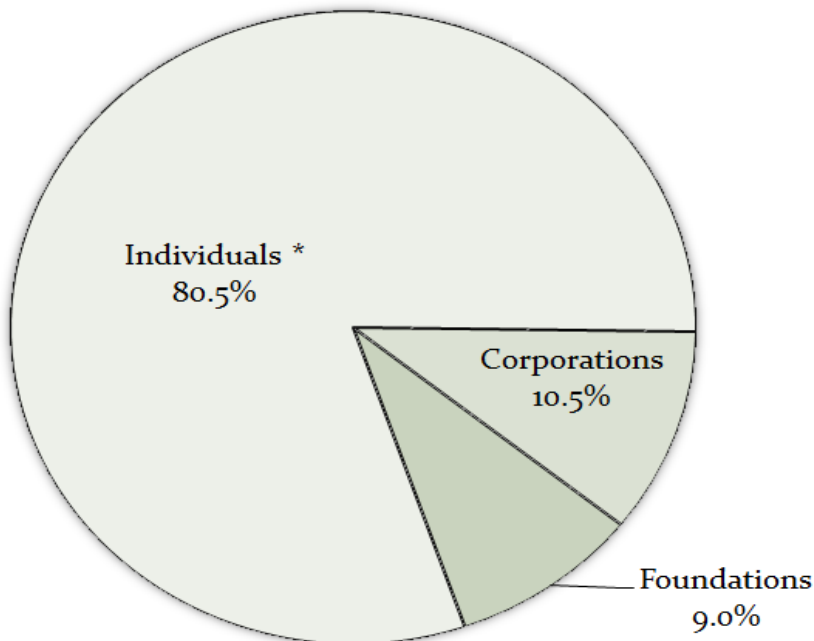
# \$3,566,432.96

#### FY 2021 Donation Categories



<b>Institutional Endowment Awards</b>	
\$2,701,875	
<b>Federal, State, and External Awards</b>	
\$2,453,154	
<b>Undergraduate Support</b>	
Number of undergraduates	1,106
Number awarded aid	586
Subset who graduated in AY 2021	226
2021 graduates who borrowed	134
Average amount borrowed	\$21,955

#### FY 2021 Donation Sources



\* NMT Alumni, Donors,  
NMT Employees / Faculty / Students,  
NMT Foundation Trustees, NMT Regents

#### NMT Cost (Tuition & Fees) Academic Year 2021-2022 Full-time, per academic year

<u>Undergraduate</u>	
Resident	\$ 8,426
Non-resident	\$24,254
<u>Graduate</u>	
Resident	\$ 8,738
Non-Resident	\$25,686

Scholarship funds used for tuition, fees, and course materials (required textbooks, supplies and equipment) are tax-free.

Scholarship funds applied to living expenses (e.g., room and board) are taxable.

# PETROLEUM ENGINEERING & NATURAL GAS

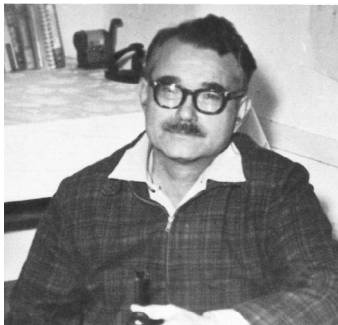
***A century ago, petroleum - what we call oil - was just an obscure commodity; today it is almost as vital to human existence as water.*** James Buchan

According to alum and Professor Emeritus **J. Michael "Mike" Kelly** (B.S. 1972, M.S. 1997, and Ph.D. 2000, all Petroleum Engineering) the history of petroleum engineering in academia in the United States began in 1915. In that year, the University of Pittsburgh granted the first degree in petroleum engineering and the University of California at Berkeley established a four-year program in the discipline. Within twenty years, New Mexico School of Mines began its own petroleum engineering program, far earlier than many realize:

The B.S. degree in petroleum engineering was one of the original degrees offered at the New Mexico School of Mines, approved in 1934 with the first graduate in 1938. – *A Brief History of New Mexico Tech*

In the 1933 Porphyry yearbook, one student listed a major of Geology (Petroleum). By 1935, the Porphyry included sixteen students (twelve of them freshmen) majoring in Geology (Petroleum). The Class of 1938 included three graduates in Geological Engineering (Petroleum Option) and two in Petroleum Engineering. One early graduate was John M. Kelly (Mike Kelly's father, see PRRC article page 12).

The bachelor's program was accredited from 1940 to 1950. By the 1950s, university enrollment was about 200 students per year, and many of them were interested in petroleum engineering, which was booming partly due to the development of offshore oil drilling.



Langdon Taylor, 1969

Mike Kelly began as a student at NMT as a sophomore in 1969. In that year, there was one Petroleum Engineering faculty member (**Dr. Langdon Taylor**). During the 1970s, the Porphyry listed "Petroleum and Mining Engineering" together; they became separate departments by 1981. The graduate program began in 1970 with an M.S. degree in petroleum engineering. In 1977, Tech added another division, the Petroleum Recovery Research Center (see separate article), whose mission was, and is, to study improved methods of recovering oil.

The Mineral Science and Engineering Complex (MSEC) was actually a three-part construction project. MSEC I was Kelly Hall (PRRC); MSEC II was Jones Hall (recently renovated), and MSEC III is what is now called simply MSEC. The petroleum engineering department spent some years in the basement of MSEC I, from the late 1970s until the late 1980's, when MSEC III was completed. The program was re-accredited in 1981 (and has remained so) and was expanded in mid-1986 to include a doctorate degree.

**Dr. Robert "Bob" Lee**, former PRRC Director and Emeritus Professor of Chemical Engineering and Petroleum Engineering noted about his time as chair in the 1990s:

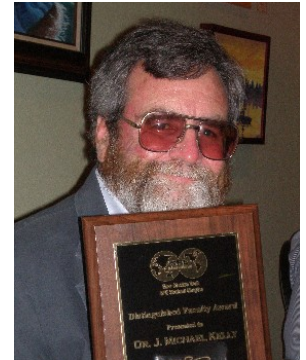
While every department tried to kill...new [engineering] programs, petroleum housed both chemical (Bob Bretz) and mechanical (Bill Lyons). Without them [today], I don't know what would happen to Tech.



Bob Bretz, 2001

The true hero of Tech (if Mechanical is the major department) should be Bill Lyons, teaching all Mechanics classes for years, forcing me to open all Petroleum facilities to Mechanics students.

**Dr. Robert (Bob) Bretz** taught at NMT for many years, retiring in 2011, when was awarded Emeritus Professor status for his contributions to the Chemical and Petroleum Engineering departments. He passed away on April 28, 2021.



Mike Kelly, Distinguished Faculty Member of the Year in 2008



Bob Lee, 2002

# PETROLEUM ENGINEERING & NATURAL GAS



Bill Lyons, 2001

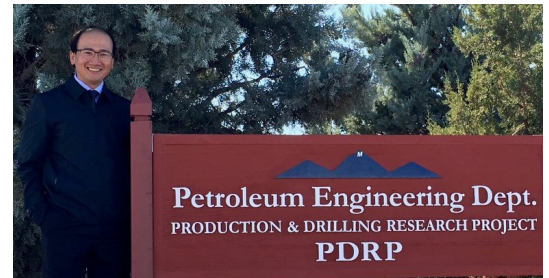
**Dr. William "Bill" Lyons, P.E.**, was a Professor in NMT Petroleum Engineering and Mechanical Engineering from 1977 - 2006. He served two one-year tours as a Distinguished Visiting Professor in Mechanical Engineering at the U.S. Air Force Academy, and is currently owner of LEA Energy Consulting in Overland Park, KS.

By Fall 2001, there were 24 undergraduate and 29 graduate petroleum engineering majors. A decade later, in Fall 2021, there were 26 undergraduate and 26 graduate students, a remarkable maintenance of enrollment given the cyclical nature of the petroleum industry.

Today, department chair **Dr. Hamid Rahnema** (see article in this issue) oversees a department that has an advisory board, with alumni and industry members, and two very active student chapters of professional associations, Society of Petroleum Engineers (SPE) and the American Association of Drilling Engineers (AADE).

An ongoing research project is the Production and Research Drilling Research Project (PDRP) consortium (**Dr. Tan Nguyen**, Professor and PDRP Director). You can find project information at <https://www.nmt.edu/academics/petreng/research/pdrp.php>.

The petroleum industry has been, and will continue to be, cyclical in terms of jobs and research funding opportunities. NMT's Petroleum Engineering program continues to evolve to provide its students hands-on opportunities to apply state-of-the-art technology to solve practical problems before they graduate and go out into the worlds of industry, research, and academia.



Tan Nguyen, 2021

A graphic of a New Mexico Tech license plate. The plate is light grey with a dark blue border. At the top center is the New Mexico Tech logo, which includes a mountain range and the text "NEW MEXICO TECH" and "SCIENCE • ENGINEERING • RESEARCH UNIVERSITY". The main body of the plate features the number "00000" in large, bold, dark blue digits. Below the number, the text "GO MINERS!" is written in a smaller, bold, dark blue font. The background of the plate has a stylized mountain range in shades of blue and orange. The entire graphic is set against a dark blue background with a subtle pattern.

**NMT MINER PLATES ARE FINALLY AVAILABLE!**

New Mexico residents - get yours today at:  
<https://www.mvd.newmexico.gov/vehicles/license-plates/collegiate-plates>

# PETROLEUM FACULTY PROFILE

**HAMID RAHNEMA, PH.D.**

**BY LISA MAJKOWSKI**

*Dr. Hamid Rahnema is an Associate Professor and Department Chair in the New Mexico Tech Petroleum and Natural Gas Engineering Department.*

## **Dr. Rahnema, when did you become interested in Engineering?**

I became interested in engineering when I was around 7 years old, I was trying to build a light torch. I enjoyed to use my light torch to discover the dark corners of our yard at night. I always had the help and encouragement of my parents to discover new things as I grow up. I remember taking apart our old radio to see how it is working. I almost destroyed it, we never could make it work like before. I expected to be punished for that, but instead my father sat down with me to explain different parts of broken radio and how they function.

## **What brought you to New Mexico Tech?**

I always wanted to become a professor. That was my dream pathway. I was working in a oil and gas company as a senior EOR engineer. I got an email from my PhD advisor Dr. Mamora regarding an opening in the PE department. PRRC and PE department at NMT are well known and have a good reputation in petroleum Industry. I knew some people in PRRC like Dr. Seright and I was familiar with their publications. So, when Dr. Tom Engler called me for a phone, and later on for onsite, interview I was quite excited.

Just an old memory of my onsite interview here at NMT; I had a flight from Houston to ABQ with a connection in Denver. This was at the night before my interview day. The first flight cancelled, so they put me in different flight. By the time I got to Albuquerque and drove all the way to Socorro it was almost 5 am. My interview started at 8 am. The worse part was that my baggage delayed and I could not pick up my baggage from the airport. So literary I only had my phone and wallet with me without any official suit. Despite all of these difficulties and not having enough sleep, the interview went very well and I had the chance to know the school and its beautiful campus.

## **Can you tell us about your current research?**

My research group is focused on enhanced oil recovery in general. In our laboratory we investigate efficient methods for increasing hydrocarbon recovery from subsurface formation. Using our advanced laboratory set ups we study the dynamic fluid displacement in core and sand pack models. Recently, we have developed a petroleum fluid laboratory in PE department where we carry out industry standard tests for reservoir fluid characterization under high temperature and pressure conditions. Beside laboratory experiments, we also use numerical modeling techniques to simulate fluid flow in the wellbore and the porous medium.

## **What is the best part of your job as a professor?**

Working in the lab is best part of my job. I like to spend time with my students to troubleshoot a problem in the lab or



*Hamid Rahnema, Ph.D.*



# PETROLEUM FACULTY PROFILE

## HAMID RAHNEMA, PH.D.

design new set up or experiment. I love the moment when what we designed and built works properly.

### What do you do for fun?

My fun is to spend time with my family and my little princess, Viana. Every weekend we try to discover new places in New Mexico. We like hiking and spent time in the nature.

To learn more about Dr. Rahnema's research, visit his website at: <https://www.nmt.edu/academics/petreng/faculty/hrahnema.php>



Viana and Hamid



Just Reflecting on Math

3.14  41.8



Makes me HUNGRY!

2022 49ERS  
**ALL ABOUT PI!**  
Save the dates  
**OCTOBER 13TH - 16TH**



2022  
**PRESIDENT'S GOLF TOURNAMENT**

Thursday, September 15th  
& Friday, September 16th

# PETROLEUM RESOURCE RECOVERY CENTER

Many don't realize that the Petroleum Resource Recover Center (PRRC) is a division, not a department, of New Mexico Tech. The PRRC was established in 1978 by New Mexico Statute: NMSA 1978, Article 9. **John M. Kelly** (B.S. Mining Engineering 1936, B.S. Petroleum Engineering 1939, and Honorary Doctorate, 1963), NMT Regent from 1975-1977, was instrumental in convincing the New Mexico Legislature to locate the PRRC on the NMT campus:

Since New Mexico Tech was the only university in the state with a Petroleum Engineering Department, it was logical that a Petroleum Center be established there.... - F. David Martin, *The New Mexico PRRC, History and Future Plans*



Joe Taber, date unknown

The first PRRC Director, **Dr. Joseph "Joe" Taber**, had been a professor in Chemistry and Chemical and Petroleum Engineering at the University of Pittsburgh for 22 years. His many research papers and patents paved the way for the field of enhanced oil recovery (EOR, also known as tertiary recovery).

His landmark paper (SPE 2098) concerning capillary desaturation established that displacement of oil trapped in a porous medium by capillary forces occurs when the ratio of pressure gradient to capillary force (as measured by the interfacial tension) exceeds a critical value. That ratio is now known as the Taber number. - *Celebration of Life Set for PRRC's Founding Director, NMT*

In 1977, construction of the John M. Kelly Petroleum Building gave the PRRC a permanent home. Taber served as Director until his retirement in 1987, leading the establishment and encouraging the growth of the PRRC.

In 2002 the PRRC building was rededicated as the John M. and Esther L. Kelly Building, aka, Kelly Hall.

Current Director **Dr. Robert "Bob" Balch** has been with the PRRC since 1997, first as a research scientist and, since 2016, as Director. He noted that,

In the 1980s and 1990s, research projects were smaller and had a narrower focus, and there were more projects, mostly funded by the Department of Energy (DoE). Each research group had a section head who was responsible for bringing in funding. DoE projects generally lasted 3-5 years; near the end of the funding cycle, the research lead would write another funding proposal and a new cycle would begin.

In the early 2000s the DoE changed their system, funding larger, longer-lasting, multidisciplinary projects, many of which focus on environmental issues. This has changed how the PRRC, and other research institutions operate.

For example, in 2003 an 18-year project was funded by the DoE, the Southwest Partnership on Carbon Sequestration. About half the PRRC's work is now environmental (carbon storage, hydrogen, water reclamation, etc.). As Dr. Balch noted,

Future research will focus on finding more resources, that are becoming more limited, in more sustainable ways.

He shared some facts and figures about the PRRC.



Joe Taber at the 1977 MSEC I groundbreaking



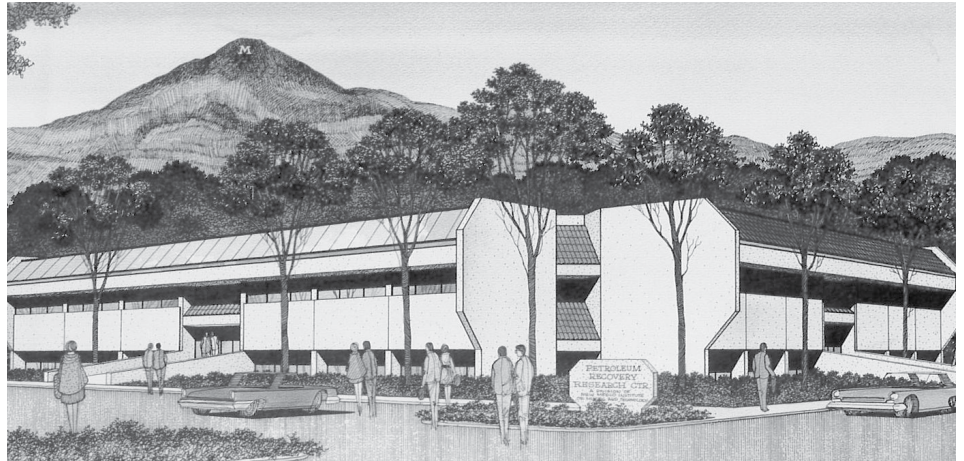
Dr. Bob Balch, 2016



# PETROLEUM RESOURCE RECOVERY CENTER

## 2021 Demographics:

- 16.75 research staff in 8 groups
- 6 support staff
- 7 supported NMT faculty (summer salary) from Civil & Environmental Engineering, Earth & Environmental Science, Mathematics and Petroleum Engineering.
- 26 supported students (19 graduate, 7 undergraduate)
- 7 federally funded active projects
- 7 industry/other funded active projects



Architect rendering of PRRC, mid-1970s

One-quarter to one-half of petroleum engineering students will work on a PRRC funded project during their time at NMT. Students from other Tech departments (mechanical engineering, chemical engineering, chemistry) are recruited to work on PRRC projects, and multiple faculty are supported with summer funding to pursue research. The division is actively working with department chairs to support 30-50 undergraduate and graduate students.

The PRRC is, and has long been, very proud of the support they provide to NMT, and looks forward to many more years of a mutually rewarding and beneficial relationship.

To learn more about the PRRC and its current research projects, visit <http://www.prrc.nmt.edu/>

Archive photos courtesy of Martha Cather, Industrial Technology Coordinator/Senior Scientist, PRRC.

## GET YOUR AUTHENTIC NMT MEMORABILIA TODAY!!

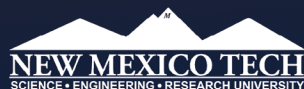
*Back due to popular demand! For a limited time only.*

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BRASS BELT BUCKLE (1.5" X 3")**

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# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

One does not have to go far down the list of successful New Mexico Tech alumni to come across the name **Lukas Lundin**. Lukas graduated from New Mexico Tech in 1981 with a degree in petroleum engineering and has since established himself as a global leader in the oil, gas, and mineral resources industries.

Known for his risk-taking nature, positive outlook, humbleness, and incredible passion for the oil and mining industries, Lukas has led the discoveries of several world-class mineral deposits and realized tremendous value for shareholders through many multibillion-dollar mergers and acquisitions. Also a prominent philanthropist, Lukas invests in education, training, and poverty alleviation.

For all of his achievements in both the mining and petroleum industries, New Mexico Tech was honored to present Lukas with an Honorary Doctorate in Petroleum Engineering in 2020. President Wells was able to present the degree to Lukas in person last year in Geneva, Switzerland.

I am very proud and consider it a big accomplishment. New Mexico Tech still holds a special place in my heart. It is where I learned to grow up. - *Lukas Lundin*

We had the privilege of sitting down with Lukas to learn about his journey to New Mexico Tech as a young man and find out where life took him after NMT.

### Adolf and the Beginning of a Legacy

The Lundin story begins with the family patriarch, Adolf Lundin, who built the foundation of the business empire, the Lundin Group, that would become known by mottos like, “No guts, no glory,” “No pain, no gain” and “You ain’t seen nothing yet!”

Born in 1932 to a middle-class Swedish family, Adolf was inspired at a very young age by the stories of American tycoons and oil barons.

Well, when I was about 14, I read a book on Rockefeller, the story of Standard Oil. After one page, I knew that was what I wanted to do: oil and mining.<sup>1</sup>

Adolf graduated with his Masters in Mining Engineering in 1956 and was hired by Royal Dutch Shell as a petroleum engineer drilling exploratory wells in South America. It was a rough start and after a few years Adolf earned the nickname “Saltwater Lundin” for his bad luck in trying to strike oil.

Adolf decided to leave Shell and enroll at the Centre d’Etudes Industrielles in Geneva where he graduated with his MBA in 1961. He spent five years managing oil exploration projects in the North Sea and Portugal before he found himself back at his former graduate school where he accepted a job as a director - fundraising, recruiting students, and teaching petroleum engineering classes.

It was during his four years as a director at Centre d’Etudes Industrielles that Adolf discovered a new passion for investing and started managing his own fund focused on natural resources. With early success in investing and his dreams of building his own company finally catching up with him, Adolf decided to venture out on his own as an oil and mining entrepreneur.

The risk paid off and his first big break came in 1976 when his company, Gulfstream Resources, co-discovered the North Gas Field in offshore Qatar - the single largest known gas accumulation in the world. Adolf’s and his partner’s stake, worth \$15 million by 1980, enabled Adolf to build up additional petroleum, gas, and mining ventures and was the start to what would become a family legacy.



*Ian, Adolf, and Lukas*

<sup>1</sup> <https://www.institutionalinvestor.com/article/b150nsw35d437t/the-life-and-death-of-adolf-lundin>



# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

### Lukas Lundin - Like Father, Like Son

It was clear early on that Adolf had plans for Lukas and younger son Ian to continue the family business. The brothers were not yet teenagers when Adolf sat them down and asked, "Which of you will be my mining engineer, and which of you will take care of the oil?"<sup>2</sup> After about 10 minutes, it was decided Lukas would take up mining and Ian, petroleum. What seems like a coin toss might have played a role in fate, as that is exactly how life played out.

Lukas and Ian spent the summers of their high school years working for the family business prospecting for uranium. In 1977, Lukas' last year in high school, he and his father came to New Mexico to visit Ian, who was working as a part of a survey crew in the Grants Mineral Belt. It was during this visit that Lukas heard about New Mexico Tech.

I was more interested in motocross than finishing high school but knew I needed to learn the trade. A field geologist heard that I was asking around about mining schools and told me I should look into New Mexico Tech. So my dad and I drove down to Socorro to visit campus. I hadn't technically graduated high school and as an international student, I hadn't taken the SAT, but Admissions agreed to accept me. I moved into Fitch Hall with only a duffel bag of my things and started school three days later. - *Lukas Lundin*

Like many stories we hear from alumni, it was the personal interactions with fellow students and faculty and New Mexico Tech's unique culture that convinced Lukas to attend.

Students showed me around and Dr. Langdon Taylor helped me sign up for classes. He made an impression and was a great advisor. I signed up for 20 credit hours my first semester but then went down to 18. I was nervous because I didn't finish high school. I had to study hard that first semester. - *Lukas Lundin*



*College Ski Trip*



*Scott Sigurdson, Lukas Lundin, Ian Lundin, Josh Soybel*

Something that has always stood out to me at Tech, and still held true even when I returned decades later as a recruiter, is how students look out for each other at Tech. The culture was very welcoming. As a foreign student with English as his second language, Lukas might not have had as good of an experience somewhere else. - *Josh Soybel*

I helped Lukas quite a bit going through school. I used to joke, university is a team sport and we [Lukas and I] made a pretty good team between the two of us. - *Scott Sigurdson*

The motto for many NMT students during the 1970s and 1980s seemed to be "work hard, play hard." It was during his first few weeks in Fitch Hall that Lukas met now lifelong friends; **Scott Sigurdson** (B.S. Petroleum Engineering, 1981), **Josh**

**Soybel** (B.S. Petroleum Engineering, 1982), **Joe Sawyer** (B.S. Mining Engineering, 1982), and **Dave Pierce** (B.S. Geology, 1982) - the group that helped this motto ring true over the next four years. The friends shared many stories with us about their time at NMT.

Some alumni might remember that the upperclassmen tended to group select freshmen together on "special" teams

<sup>2</sup> Game of Risk - <https://www.theglobeandmail.com/report-on-business/a-game-of-risk/article23004099/>

# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

during St. Pat's. Well, Lukas, Scott, Josh, Joe, and Dave made up one of those teams.

They either really liked us or really didn't like us, either way they thought we belonged together. St. Pat's bonded us. - **Josh Soybel**

As freshman you normally would create your own team but the upperclassmen put us on one together. Besides doing all of the shenanigans that was really good fun during St. Pat's, the last night you stayed up all night digging a pit that they'd fill with water and then you'd have to crawl across this grease pole. If you were on one of the "special" teams, you got to dig the pit with a spoon. - *Scott Sigurdson*

Other alumni of the late 70s might remember "The Ranch," the group's old stomping grounds out in San Acacia where they had 20 acres to cause trouble. That and very bad plumbing.

One story that almost everyone remembered was Lukas' motorcycle accident. Lukas was riding his motorcycle around campus and unknowingly ran a stop sign. On his way around the motocross track campus security caught up with him. The two collided head on resulting in a trip to the Albuquerque hospital and knee surgery for Lukas.

Lukas comes back with this big brace on his leg and he's carrying the crutches over his shoulder. I said, "What are you doing, Lukas?!" He laughed and said, "They told me I had to have my crutches with me for at least three days." The other memory of the accident is that when I asked Lukas if he was mad at the security guard he replied, "Why would I be? He didn't hit me on purpose. He was just trying to chase me after I blew through that stop sign." Absolutely no animosity. - *Josh Soybel*

The doctor told him if things go well in a year, people won't notice your limp. In typical Lukas fashion, he pulled his cast off three weeks later, developed his own PT program, and ran a marathon in Tucson at the end of that year. - *Dave Pierce*

While Lukas had his share of fun, he continued to gain valuable industry experience during the summers. Joe Sawyer tells of a summer they worked together staking claims in Ontario.

We had one job with a three-man crew where we were dropped off separately by helicopter at different locations in a spruce swamp every day over a 10 day period. Each day we cut quarter square mile claim lines, erected corner posts, and met up at the end of the day to cut a helicopter pad for pick up. We travelled light carrying machetes, compass, claim tags, a hip chainer, some lunch, bug dope and a canteen. This was before GPS and we were always happy when the helicopter found us at the end of the day. At one remote lake prospecting camp that we had boated into, Lukas and I rescued two men who had swamped their canoe. They may have died from hypothermia had we not been there performing geophysical work.\* At this project we spent several days alone working in rough weather, often laying down in our gas-powered canoe while travelling and hugging the shore to avoid swamping.

\* A corollary to this story is that years later Joe and Lukas were heard sharing a laugh about how Lukas wanted to hurry up and help the near-drowning men. However, always pragmatic, Joe observed that it would be best for them "to first chill for a while in the ice-cold water" so that they wouldn't have the energy to swamp their canoe once hauled in. In the end, the two inexperienced boaters, with their shiny new canoe, were grateful to have been rescued by "seasoned mountain men prospectors." - *Lukas and Joe*



*Motorcycling President's Hall*

# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

Lukas' hard work and self-discipline paid off allowing him to become one of the golden few who managed to graduate from New Mexico Tech in just four years and in 1981 he received his B.S. in Petroleum Engineering.

With college over, it was time for Lukas and Ian to step into the roles they claimed a decade earlier. Adolf had incredible confidence and trust in his two sons, so much so that he put Lukas in charge of growing international operations for International Petroleum Corporation, headquartered in Dubai, at the ripe young age of 25.

I lived in the Middle East and basically ran everything myself and called father once a week. We made a lot of mistakes, but we learned a lot of things through those experiences. The first ten years were quite painful because the learning curve was quite steep but from all those mistakes we learned what to do right. That was a very beneficial school but probably very expensive for my father.<sup>3</sup>

After a few years in Dubai, Lukas went back to Canada and the mining business and started to carve out his own path to success.

My first real break came when I came to Vancouver in the mining business and I picked up this big deposit, Bajo de la Alumbrera, in 1991, with the big porphyry\* system up in the Andes in Argentina... At that time I knew not very much about mining. I didn't know what a porphyry was!<sup>4</sup>

*\* Ed. note for non-earth-science alumni: Porphyry System - A deposit in which minerals of copper, molybdenum, gold, or less commonly tungsten and tin, are disseminated or occur in a stockwork of small veinlets within a large mass of hydrothermally altered igneous rock.*

Bajo de la Alumbrera ended up being a world-class copper and gold deposit. Lukas spearheaded the deposit's \$500 million takeover in 1995 by Rio Algom and North Ltd., one of the largest gold and copper producers in the world.

Just a few years later, Lukas had another big success when he discovered the Veladero gold deposit. The deposit was taken over by Homestake in 1999 for \$300 million. Today Veladero is considered one of the top producing gold mines in the world with estimated reserves of 10 million ounces of gold.



Lukas at Filo, Argentina



Lukas and three of his sons in the field at Josemaria

Lukas is results oriented and a great risk-taker. If you look at a lot of the successes that he's had it's because he is willing to go into places that others are hesitant about. He has a 'go for it' mentality that has earned him a lot of success. - Scott Sigurdson

Very much like his dad, Lukas has this uncanny ability to sort of look at a project and see opportunity where others see only obstacles and risks.<sup>5</sup> - John Craig

This fearlessness led Lukas to the high-risk environment of the Democratic Republic of the Congo and to one of the world's largest copper and cobalt deposits. In 1996, Lundin entered into a joint venture with Congolese mining company, Gecamines, to form Tenke Fungurume Mining. Phelps Dodge/Free-

<sup>3</sup> Game of Risk - <https://www.theglobeandmail.com/report-on-business/a-game-of-risk/article23004099/>

<sup>4</sup> Interviews with Mining Greats: Lukas Lundin - <https://stratum-international.com/interviews-with-mining-greats-lukas-lundin/>

<sup>5</sup> 2020 Mining Hall of Fame Inductee Video - <https://www.miningfoundationsw.org/page-1847284>



# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

port-McMoRan later joined the venture. After eight years of production, Lundin Mining sold its stake in Tenke to China Molybdenum Co. for \$1.8 billion.

Other mining successes worth mentioning include Lundin Gold's Fruta del Norte deposit in Southwest Ecuador that went from purchase to production in only five years as well as another Lundin company, Lucara Diamond Corp, which owns Karowe Mine in Botswana, an exceptional diamond mine that has produced the two of the largest diamonds in modern history.

In addition to being the chairman of Lundin Mining and Lundin Gold, Lukas is also involved in the Lundin Groups' energy companies. As a senior director for Lundin Oil, he was instrumental in its sale to Talisman Energy in 2001 for \$480 million. He has also served as a director for Lundin Energy (formerly Lundin Petroleum), since 2001. In 2010, Lundin Energy discovered the Johan Sverdrup oil field, the third largest oil field on the Norwegian continental shelf with expected resources of 2.7 billion barrels of oil.

With a role model like Adolf, early exposure to the industry, and a "go getter" mindset, it is difficult to imagine Lukas not ending up where he is today. However, when asked about his recipe for success, Lukas is quick to acknowledge others before himself.

People are very important. Get the right people. Secondly, I think you have to empower the people so that they can make the right decisions to keep the project going, and of course you have to have good assets.

It is one thing to hire the right people and another thing completely to be the type of person they will follow. As a leader Lukas is often described as supportive, trusting, and incredibly loyal.

Working for the Lundin Group of Companies under Lukas in those early years was very rewarding. As a site manager I was given significant autonomy and at the same time all the corporate support that was necessary to move the projects forward. Lukas proved himself a leader developing these small projects during those early years. - *Joe Sawyer*

When Lukas went to work for his dad at IPC, they really didn't have access to the training programs and resources of big oil so it really was about managing people and getting the right people to work for you. One of the things Lukas is really good at is developing exceptional relationships with people and is able to translate that into really incredible business success. - *Scott Sigurdson*

Lukas is also quick to acknowledge that the Lundin Group would not be the success it is today without the support of the local communities in which they work. Lukas is described by friends to have a big heart and a genuine care for people. Inspired by a motorcycle trip from Cairo to Capetown and the extreme poverty he witnessed, Lukas founded the Lundin Foundation in 2006 and served as Chair until last year. The foundation's mission was initially focused on poverty alleviation but has since grown to support education and skills training, small businesses, economic diversification, and innovation. In 2020 the Lundin Foundation supported 750 small businesses enabling them to generate over \$20 million in revenue and create 1600 jobs.

Today, the Lundin Group comprises twelve individually managed public companies operating all around the world, with no indication of slowing down. Lukas describes all of his children as his greatest achievement. Lukas' four sons, Harry, Adam, Jack, and Will, have all joined the family business, ensuring the legacy continues for at least another generation.

### Work Hard, Play Hard - Continued

The motto that described Lukas' years at New Mexico Tech is one that has endured throughout his life.



*Lukas on a motorcycle trip from Cairo to Cape Town which inspired him to start the Lundin Foundation*



# PETROLEUM ALUM SPOTLIGHT

## LUKAS LUNDIN AND THE LUNDIN LEGACY

I have been to the Dakar Rally four times, finished twice and crashed twice, breaking my wrist and leg. You are alone most of the time and get to see some spectacular scenery. - *Lukas Lundin*

His love for extreme sports doesn't stop there. There is a rumor that he took a group of brokers bungee jumping after closing a deal. He is a regular heli-skier, and he has also climbed the Matterhorn and Mount Kilimanjaro twice. Scott recalls their first Kilimanjaro attempt:

It was a classic Lukas story, he called me up and said, 'Hey, you want to go climb Kilimanjaro?' I was like, 'OK, where is it?' 'Africa,' 'OK, is it cold?' 'Nah it's on the equator, how cold can it be?' We basically went up and down the mountain in three days which was probably not very smart (it normally takes 6-7 days)... We about froze to death and made it to Gilman's Point, a summit on the edge of the crater's rim, however below the true summit at Uhuru. Not making it to the true summit drove both of us nuts. We actually ended up climbing the mountain again 20 plus years later, a week apart with our families and didn't know it. That time we brought some warm clothes and made it to Uhuru!

Whether it be work or play, you can guarantee that if Lukas is involved the situation will be described by the average person as somewhat risky. The same can be said for Lukas' decision to attend New Mexico Tech. As an international student whose second language was English and who hadn't graduated high school, enrolling and starting school at New Mexico Tech just three days after your first visit seems like a pretty big gamble but NMT is glad Lukas took it! Like many alumni he left with lifelong friendships, incredible memories, and an education that we hope played a part in his many career successes. New Mexico Tech is proud to call Lukas an alumni and looks forward to the adventures yet to come!

After a lifetime of taking chances, we asked Lukas if he had any advice to share with NMT students and recent graduates. He said:

If you have a good idea, don't hesitate - step forward! No regrets, no 'should haves.' The best decisions can be wrong ones - we learn from our mistakes.

There is a quote by Hunter S. Thompson that Lukas has hanging over his ski cabin fireplace that sums up his approach to life perfectly:

*"Life should not be a journey to the grave with the intention of arriving safely in a pretty and well-preserved body, but rather to skid in broadside in a cloud of smoke, thoroughly used up, totally worn out, and loudly proclaiming "Wow! What a Ride!"*



President Wells and Lukas Lundin

Do you have an address, email, phone, name, or job update?

Do you prefer communications by mail or email only?

Do you have some big news to share?

Contact us at [advancement@nmt.edu](mailto:advancement@nmt.edu)!

## NMT ESPORTS SCHEDULE - SPRING 2022

### League of Legends Emergents Division - Cyan Conference

February 25 3:30 pm MST  
NMT vs Marymount California University  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 4 5:30 pm MST  
NMT vs California State University Sacramento  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 11 3:00 pm MST  
NMT vs Pittsburg (KS) State University  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 18 7:30 pm MST  
NMT vs George Fox University [Varsity]  
Match streamed on <https://www.twitch.tv/necc2>

March 25 BYE WEEK

April 1 6:00 PM MST  
NMT vs Emporia State University  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

April 8 5:30 pm MST  
NMT vs University of British Columbia [Amber]  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)



### Rocket League Emergents Division - Cyan Conference

February 22 9:00 pm MST  
NMT vs University of California Santa Barbara [B Team]  
Match streamed on [https://www.twitch.tv/necc\\_esports](https://www.twitch.tv/necc_esports)

March 1 9:00 pm MST  
NMT vs University of California Davis [Blue]  
Match streamed on [https://www.twitch.tv/necc\\_esports](https://www.twitch.tv/necc_esports)

March 8 3:00 pm MST  
NMT vs California State University Fresno [Red]  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 15 7:30 pm MST  
NMT vs University of British Columbia [Academy]  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 22 8:15 PM MST  
NMT vs Western Colorado University  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

March 29 8:00 pm MST  
NMT vs University of Houston [Premiere]  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

April 5 7:45 pm MST  
NMT vs Dakota Wesleyan University [Blue]  
Match streamed on [https://www.twitch.tv/nmt\\_esports](https://www.twitch.tv/nmt_esports)

### Biology - NSF CAREER Award

The National Science Foundation (NSF) has awarded **Dr. Joel Sharbrough** (Assistant Professor) a prestigious Faculty Early Career Development (CAREER) award. The research focuses on understanding the genetic underpinnings of how plant cells produce energy, which represents a central goal in plant biology, especially in the context of crop improvement efforts. However, the connection between genes and the energy-related traits those genes encode is complicated because energy-related genes are spread across three separate cellular compartments (the nucleus, the chloroplasts, and the mitochondria). To connect genomic sequences across the nucleus, the mitochondria, and the chloroplasts to the photosynthetic and energetic outputs that those genes encode and to improve the availability of wheat genomic resources

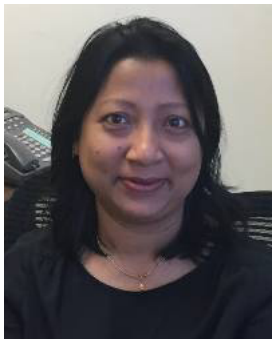


Dr. Joel Sharbrough

Much of the research will take place in the context of Course-based Research Experiences in which undergraduate students simultaneously learn critical biological techniques and contribute to the understanding of plant energetics. State-of-the-art technology will engage high school students in the genomics revolution by sequencing the genomes of creosote and snowflower at Socorro High School (Socorro, NM) and North Tahoe High School (Tahoe City, CA), and one high-school intern will be funded to participate in plant genomics research at NMT each summer.

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### Chemical Engineering / Materials Engineering - Polymer Upcycling



Dr. Sanchari Chowdhury

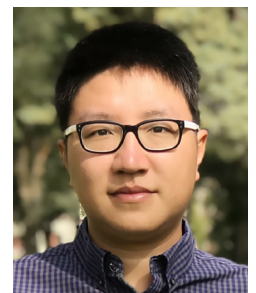
In July, 2021 the Office of Science of the Department of Energy announced that 10 projects had been selected to receive funding as part of competition for research in Chemical Upcycling of Polymers sponsored by the Office of Basic Energy Sciences. The research efforts will advance understanding of the efficient deconstruction of existing polymers into intermediates that can be used to create new valuable products, the direct modification of existing polymers to create polymers with new functionality, and the design of next-generation polymers that can be re-used efficiently and sustainably through many energy-efficient product cycles. One of the ten projects is “Development of Recyclable Thermosets for Additive Manufacturing,” with Principal Investigator **Dr. Sanchari Chowdhury** (Associate Professor, Chemical Engineering) and co-investigators **Dr. Youngmin Lee** (Assistant Professor, Chemical Engineering) and **Dr. John McCoy** (Professor, Materials Engineering).

Read the NMT News story here: [https://www.nmt.edu/news/2021/sanchari\\_chowdhury\\_gets\\_doe\\_grant.php](https://www.nmt.edu/news/2021/sanchari_chowdhury_gets_doe_grant.php)

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### Electrical Engineering – NM EPSCoR SMART Grid Center Infrastructure Seed Award

**Dr. Sihua Shao**, Assistant Professor, joined the NM SMART Grid Center project team in Fall 2020 and has presented his research on *Retro-reflective visible light communication (Retro-VLC)*. Due to its narrow interception range, it is a low-cost and flexible solution for securing indoor wireless communications. An orthogonal solution to enable Orthogonal frequency-division multiple access (OFDMA) for Retro-VLC tags is pixelated structure. A given modulator could be “pixelated” into several segments, each driven simultaneously with the same signal to address the issue where speed scales inversely as the square of the modulator diameter. The proposal is to develop a pixelated Retro-VLC tag by controlling different smaller-sized pixels, however independently using different signals.



Read more about Dr. Shao's research at <http://www.ee.nmt.edu/~shao/index.html>



# DEPARTMENT & FACULTY NEWS

## Materials Engineering and Physics - NSF Career Awards

The National Science Foundation's Faculty Early Career Development (NSF CAREER) award is the NSF's most prestigious award given to junior faculty with the potential to serve as academic role models in research, education, their integration, and to lead advances in the mission of their department, organization, and research fields. Two NMT faculty members have received the highly competitive awards, which will fund five-year projects.

**Dr. Chelsey Hargather** (right), Assistant Professor, Materials Engineering has a project focusing on high-entropy alloys.

**Dr. Caitano da Silva** (photo next page), Assistant Professor, Physics has research investigating lightning, including its propagation and connection to ground structures.



Dr. Chelsey Hargather

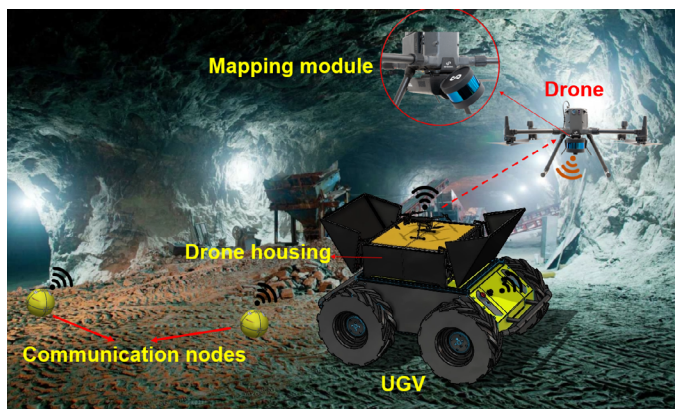
Read the NMT News story here:

[https://www.nmt.edu/news/2021/nsf\\_career\\_awards\\_2021.php?fbclid=IwAR2dnXkGB-KOs4LOUchXILmIQibXiGDBXATV2umJn5ziCCQeBfmcE-iTF70c](https://www.nmt.edu/news/2021/nsf_career_awards_2021.php?fbclid=IwAR2dnXkGB-KOs4LOUchXILmIQibXiGDBXATV2umJn5ziCCQeBfmcE-iTF70c)

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## Mineral Engineering / Mechanical Engineering / Electrical Engineering - Design and Demonstration of Intelligent Mine Evacuation and Mine Rescue System

Funded by the CDC National Institute for Occupational Safety and Health (CDC-NIOSH), **Dr. Pedram Roghanchi** (Mineral Engineering), **Dr. Mostafa Hassanalian** (Mechanical Engineering), **Dr. Arvin Ebrahimkhanlou** (Mechanical Engineering), **Dr. Sihua Shao** (Electrical Engineering), and **Dr. Navid Mojtabai** (Mineral Engineering) are collaborating on this 2021-2025 research project. The NMT team will collaborate with the University of Arizona, University of Nevada, Reno, technology developers/licensors, and mining companies to achieve the goals of the project.



When the lives of miners are in danger, or the workers' self-escape from a hazardous environment is impeded, mine emergency response systems must respond and deploy rapidly. The post-accident mine environment may significantly increase the mission's risk and the stress on the rescue team. Any delays in a rescue mission can cost the lives of trapped miners.

Self-escape and mine rescue heavily rely on each individual's level of skills and preparedness to make the correct decisions. Introducing an intelligent system to assist mine personnel and mine rescue teams during an emergency will significantly improve the likelihood of success while reducing the risks to miners.

The research team will design and demonstrate intelligent evacuation and rescue systems for underground mining applications; the systems will be a combination of ground and aerial vehicles with complementary capabilities. Algorithms will be developed to assist miners to find the safest and fast paths to safety. The algorithm relies on the existing communication and tracking system incorporating human factors into the simulation models. Finally, a new communication system will be designed to optimize locating, tracking, and communicating with trapped miners and providing AI-assisted self-escape when possible.

More project details are available at <https://sites.google.com/nmt.edu/afasl/openings/niosh-project>

## DEPARTMENT & FACULTY NEWS

### Mineral Engineering / NMBGMR / PRRC - Carbon Ore, Rare Earth, and Critical Minerals Assessment

The Department of Energy has awarded New Mexico Tech a contract (Carbon Ore, Rare Earth, and Critical Minerals (CORE-CM) Assessment of San Juan River-Raton Coal Basin, New Mexico) to examine rare earth elements (REE) and other critical minerals (CM) in coal and associated strata in the San Juan and Raton Basins in northern New Mexico. Critical minerals are mineral resources that are essential to our economy and whose supply may be disrupted. Most CM are 100% imported into the U.S. Many CM are found in the San Juan and Raton Basins of New Mexico.

The purpose of this project is to (1) identify, quantify, and characterize the distribution of CM, including REE, in coal beds and related stratigraphic units in the San Juan and Raton basins in New Mexico (including coal, coal refuse, ash, coal seam, interstitial clays/shales, volcanic ash beds, acid mine drainage, associated sludge samples, mine dumps, other nonfuel carbon-based products, process waters, etc.), (2) identify possible sources of CM and REE in the basins, (3) identify the coal mine and nonfuel carbon-based waste products that could contain CM and REE, and (4) test and develop new technologies in identifying and quantifying CM and REE in high-fidelity geologic models.



The PIs on the project are **Dr. Navid Mojtabai** (Professor, Mineral Engineering), **Dr. Virginia McLemore** (Principal Senior Economic Geologist and Minerals Outreach Liaison, New Mexico Bureau of Geology and Mineral Resources), and **Dr. William Ampomah** (Research Scientist/Section Head, Petroleum Recovery Research Center). NMT graduate and undergraduate students are working on the project. San Juan College, Los Alamos National Laboratory, and Sandia National Laboratory are partners in this project.

*NMT students sampling Jurassic uranium beds below Cretaceous coals at the St. Anthony mines.*

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### Mineral Engineering - Activities of Minerals Exploration Graduate Students

Graduate students in the Minerals Exploration Program are involved with studies of copper, silver, and gold ore deposits in countries as diverse as Sweden, México, Perú, Chile, and the U.S. These studies involve assessing the geologic significance of alteration and ore minerals in the genesis of large hydrothermal systems. They also study the effects of weathering on metals mobility and the impact of mining activities on the local environment. Currently, students are conducting studies in Perú, México (two), and Sweden, with upcoming projects in Chile and North Dakota, and travel to these areas for field work and collaboration with exploration and mining geologists.

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### Physics – NM EPSCoR Mentoring Award

The New Mexico Established Program to Stimulate Competitive Research (NM EPSCoR) announced in August that **Dr. Caetano da Silva**, Assistant Professor (Atmospheric Physics), is a 2021 NM EPSCoR Mentor Award recipient.

The annual award is presented to “mentors who demonstrate excellence in supporting students’ academic, research, and career endeavors, and in creating inclusive environments for all students.”

Read the news story here: <https://www.nmepscor.org/nm-epscor-mentor-awards>



*Dr. Caetano da Silva*

## PEOPLE YOU KNOW

**Oreste Lombardi** (M.S. Geology, 1957) has new viral treatment research. When a fellow alum asked what everyone had learned, he said "Nature is simple. Therefore, complicated explanations are problematic. (Explains the viral research, also.)"



**Dr. Marvin Rowe** (B.S. Petroleum Engineering, 1959) is Lab Director of the Low Energy Plasma Radiocarbon Sampling (LEPRS) Laboratory at the New Mexico Office of Archaeological Studies.

He is a co-author of the following 2021 research papers: "Re-dating a red-deerskin strap associated with the SMM (Skiles) mummy burial from the Lower Pecos Canyonlands" and "Serpentine Bends Site #1: Radiocarbon dating prehistoric soot and associated pictographs," *Journal of Archaeological Science*; "Premature Oxidation during Argon Plasma Cleaning of Water-Rich Radiocarbon Samples," *Radiocarbon*; and "Bibliography of Rock Art Dating: 2012-2020," *Rock Art Research*.

**Dr. William "Will" Wilkinson** (B.S. 1970 and M.S. 1976, Geology) was awarded the 2020 Society for Mining, Metallurgy, & Exploration (SME) Robert M. Dreyer award.

Established in 1999, this award recognizes outstanding achievements in applied economic geology accomplished through commercial exploration or development of metalliferous and/or nonmetalliferous mineral deposits.

Wilkinson retired in 2015 after nearly 25 years with Freeport-McMoRan. He served as SME President in 2009, and was awarded Honorary Membership in the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) in 2015.



**Nathalie "Nat" Brandes** (B.S. Geology, 1999; M.S. Geology, 2002) and **Paul Brandes** (B.S. Geology, 2001)

**Nat reports** after numerous delays, including getting stuck in an ice storm around Raton, a flash flood washing out a road near Mogollon, my old Dodge Dakota needing repairs in the Bisti Badlands, and a pandemic-related paper shortage, my book **New Mexico Rocks! A Guide to Geologic Sites in the Land of Enchantment** was recently published by Mountain Press. I wrote the text and my husband took most of the photographs.

*Nat Brandes with her newly published book*

**Dr. Lois "Jean" Wardell** (Ph.D. Geochemistry, 2003) has been selected for a new leadership role with the US Space Force Association (SFA) as Chair of the SFA Committee on Women in Space (WinS). Currently she is a Senior Space T&E Engineer at Galapagos Federal Systems working on the standup of the National Space Test and Training Complex (NSTTC). Previously Dr. Wardell worked leading technical concept development to address USAF technology gaps and worked for over a decade with unmanned systems R&D. She is widely recognized as an entrepreneur, innovator and research scientist. She notes, "Women in Space encompasses a broad community in government, industry, academics, and the military. We hope this will become a platform for women to help each other throughout the space sector."

Note: Membership in SFA and WinS is free for university students, \$35 for others. Join SFA at <https://ussfa.org/>, then select the Women in Space Committee.





## PEOPLE YOU KNOW

**Hooman Hosseinpour** (M.S. Mineral Engineering with Geotechnical Option, 2009) was selected by Engineering News Report (ENR) as an ENR Northwest's 2020 Top Young Professional, honoring up-and-coming leaders in architecture, construction and engineering. Nominees, under 40 years of age and from Alaska, Oregon, or Washington, are judged by a volunteer panel of their peers.

Hosseinpour was honored while working as Lead Geomechanics and Project Manager at Golder; he's now Principal PM Manager, Cloud & AI, at Microsoft. He also serves as a board director for Xbot Robotics, a nonprofit that provides STEM opportunities through robotics competitions to under-served Seattle students.



**Tyler Atura Bushnell** (B.S. Mechanical Engineering, 2011) I'm living in San Francisco, raising my first daughter with my wife Annie Atura Bushnell. After Tech, I went on to get my M.S. in Mechanical Engineering with a depth in Design from Stanford. I started working for Apple on the Product Design Engineering team for the first Apple Watch. I've recently been promoted to manager after leading several successful Watch teams.

Besides work I'm an abstract pen artist (*right*) and a pin designer. I take pictures every day, and select one to represent each day (a project I started my freshman year at Tech). I often struggle to find the balance between leisure and productive hobbies — often feeling like I'm doing too much, or not doing enough.

I also daydream about ways to reduce the polarization and bandwagoning on political issues — any ideas?



**Cora (Carman) Esparza** (B.S. Chemical Engineering, 2018) and **Savieay Esparza** (B.S. Biomedical Science with Concentration in Chemistry and Minor in Biology, 2018) are now doctoral students in biomedical engineering at Virginia Tech. Cora has received a National Science Foundation (NSF) IIE-Graduate International Research Experience award to pursue her research abroad. She is driven by work that fills a need, which she aims to address by understanding blood vessels and their role in delivering oxygen – or failing to do so – and subsequent resulting illnesses, such as cancer cell invasion and sleep apnea.

While in Barcelona, Cora will be working in the lab of Dr. Isaac Almendros, an Assistant Professor in Medicine and Health Sciences at the University of Barcelona; Savieay will be continuing his doctoral studies remotely, working to develop a computational model of the tumor microenvironment. Read more about Cora's award at [https://vtx.vt.edu/content/vtx\\_vt\\_edu/en/articles/2021/08/biomedical-eng-phd-nsf-fluid-flow.html](https://vtx.vt.edu/content/vtx_vt_edu/en/articles/2021/08/biomedical-eng-phd-nsf-fluid-flow.html).



Savieay, Chewie, and Cora

**Chris Walkling** (B.S., Chemical Engineering, 2020) was featured in an article on biofuel development in the Fall 2021 Naval Aviation News - read the article at [https://www.nmt.edu/advancement/docs/Unlikely\\_Fuel\\_Source\\_Makes\\_Waves.pdf](https://www.nmt.edu/advancement/docs/Unlikely_Fuel_Source_Makes_Waves.pdf). Walkling's a member of a research team developing a hybrid biological/chemical process that uses bacteria found in seawater to generate a "platform" chemical, which can then be converted into jet, diesel, gasoline or even missile fuel.

## SUPPORT YOUR DEPARTMENT

Alumni transform student experiences through their participation in department events, discussions with and mentoring of our students, and in their gifts to the institution.

As you reflect on your own experiences at NMT, what was transformative in your education? Are there academic areas you think need greater support?

Consider making a gift to your department or favorite program to support our current students and the educational experiences they receive at NMT - whether through scholarships, research experiences, use of state-of-the-art instrumentation, travel support to professional conferences...or your favorite idea!

To donate, please visit our website at <https://advancement.nmt.edu/donate> and select your department or program from the drop down Designation menu. Checks made out to "New Mexico Tech" with the department or program name in the memo line can be mailed to:

Office for Advancement  
801 Leroy Place  
Socorro, NM 87801

As always, thank you for your generosity and support!



*NMT chemical engineering undergraduate students won top awards in three categories while presenting their research at a recent national AIChE meeting. (L to R) **Meghan Hill**, now a Ph.D. student at Michigan State University, **Maggie House**, now a Ph.D. student at University of Minnesota, and **Jeremy Herman**, now a Ph.D. student at University of Colorado, Boulder.*

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## ALUMNI OUTREACH AND RECRUITING INITIATIVE

Tech alumni have been helping their departments in outreach for years and their involvement has always been crucial. They have helped get access for outreach initiatives, encouraged students to consider Tech and provided professional support. Tech has many outstanding successes in this area.

To build on these actions, a university-wide **Alumni Outreach and Recruiting Initiative** was organized. This includes an internal team of faculty and staff, with team members representing a range of science and engineering departments and offices across campus. It also includes alumni volunteers who responded with their interest through a survey conducted in 2020 by the Office for Advancement. The team's goal is to strengthen ties between alumni, academic departments, and the larger Tech community in outreach and student recruiting activities to amplify the NMT brand.



In the spring of 2021, alumni participated in two *Research at Tech Day* virtual events and in a *Transfer Day* virtual meeting room. In the fall of 2021 a virtual event was offered to alumni volunteers to review the team mission and gather their ideas. Volunteers in attendance included: **Peter Livingstone** (Mineral Engineering), **Cameron Kenny** (Mechanical Engineering), **Jim Linville** (Petroleum Engineering), **James Brooke** (Metallurgical Engineering), **Wesley Young** (Physics) and **Patty Seward** (Electrical Engineering). The event reviewed team members and their activities and included an overview of Admissions by Director Greg Stringer. Alumni participants provided excellent input on information that may be useful to them to help support the team's mission. The team is currently surveying Master of Science for Teachers (MST) alumni about their interests in having hands-on demonstrations by faculty in their classrooms.

Plans for 2022 are currently being developed. Activities will focus initially on virtual events and then gradually transition to more in-person interaction where appropriate. Alumni interested in supporting this initiative should contact Sandi Lucero ([sandi.lucero@nmt.edu](mailto:sandi.lucero@nmt.edu)) in the Office for Advancement & Alumni Relations.

## IN MEMORIAM - NMT ADMINISTRATION AND FACULTY



Simon Joseph  
Gormley, Jr.

*NMT Administration  
Admissions & Financial Aid*

Simon "Si" Joseph Gormley, Jr., (Director of Admissions / Financial Aid, 1969 – 1980) was called to his eternal resting place on October 10, 2021. Born in Albany NY on April 16, 1932, he moved to Albuquerque, NM in 1953 with his parents and sister where his father, Dr. Simon Gormley, Sr., worked for the Veterans Hospital.

Simon Jr. enrolled at the University of New Mexico where he met his future wife, Sylvia. In May 1954, he entered the US Army serving in Germany during the Korean War. After two years of military service, he returned to New Mexico and completed his education at UNM. Simon and Sylvia were married in Albuquerque on August 10, 1957 and remained happily married for 64 years.

Simon spent his entire professional career in the New Mexico educational system as a teacher and coach at Garfield Middle School and Valley High School as well as serving many years as a college administrator, first as Director of Admissions, then Director of Admissions and Financial Aid, at New Mexico Tech. He was well respected by his students, players and colleagues. All will remember his Irish humor and good nature.

He is survived by his beloved wife, Sylvia; his three children, Cathy, Tim and Shawn; his daughters-in-law, Joyce and Gloria; his sister Katie Read (David), nieces, nephews, grandchildren and great-grandchildren. In lieu of flowers, the family is requesting any donations be sent to the APS Foundation.



Kálmán "Dr. O"  
Imre Oravecz

*Professor Emeritus of  
Mineral Engineering*

Kálmán "Dr. O" Imre Oravecz, PhD (Mineral Engineering, 1977-2001), passed away peacefully at home surrounded by his family, at the age of 88. Born in Nógrádsipek, Hungary in 1932; he left Hungary during the 1956 Revolution one semester shy of completing his Master's degree in Mining Engineering. He was welcomed into the United Kingdom, along with 20,000 other Hungarian refugees, and lived there for several years where he redid his Master's degree at the University of Durham, Kings College, in Newcastle and began his career.

He moved to South Africa where he conducted research to improve mine safety at the Chamber of Mines and completed a Ph.D. at the University of the Witwatersrand. While living there he met and married his wife Barbara and had three children: István, Ildikó, and Kálmán. The Oravecz family moved to the United States in 1977 where he began a teaching career in the Mining and Mineral Engineering Department at New Mexico Tech.

He taught courses and established a research laboratory in his area of expertise, Rock Mechanics, and continued his research in the field. He advised students on their Ph.D. studies, many of whom kept in touch with "Dr. O" throughout their lives and careers. He was incredibly proud of the successes and accomplishments of all his students.

During many summers he volunteer taught high-school-aged Native American students as part of the Native American Mining Engineering Students (NAMES) program. His professional association memberships and contributions to the

profession of mining engineering are numerous, and he would have downplayed them due to his humble and modest nature.

Kálmán was a long-time member of the parish of San Miguel and he and Barbara volunteered their time to the church.



# IN MEMORIAM - NMT ADMINISTRATION AND FACULTY

He was an avid radio ham (ZS6KP and AJ5B) and member of the Socorro Amateur Radio Association; he was recognized by the Association for his many years of outstanding volunteer service as their "Chief Examiner." He and Barbara loved playing tennis together and spent decades as members of the Socorro Tennis Association. He loved playing Hungarian folk music on his alto clarinet (tárogató), enjoyed the sport of gliding that he had first taken up in Hungary, and had numerous other interests and hobbies.

Kálmán was known for his warmth and friendliness, his generous spirit, his sense of humor, and his willingness to go the extra mile for his students. Kálmán was preceded in death by his parents and two of his three siblings.

He is survived by his wife of 55 years, Barbara, his son István (Sue), his daughter Ildikó (Kevin) Bryant, his younger brother Miklós, and his many nieces, nephews, and other relatives in Hungary. His bright and loving presence will be sorely missed.

Donations in his honor may be made to the Socorro Amateur Radio Association at <https://greatnonprofits.org/org/socorro-amateur-radio-association>.



## MATCHING GIFTS

# DOUBLE THE IMPACT

# 1

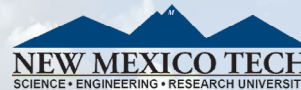
you give

# 2

your employer matches

**YOU** designate the scholarship, program, or department your gift will benefit.

**YOUR EMPLOYER'S** matching gift will go to the same fund.



### Did you know that your employers may double or even triple your gift to New Mexico Tech?

Many employers sponsor matching gift programs and will match most charitable contributions made by their employees. Some even match gifts made by retirees!

Please contact your HR department to learn if your employer supports matching gifts and let us know! If you have trouble finding out, please contact [advancement@nmt.edu](mailto:advancement@nmt.edu) and we will help you!

Here are some incredible companies that support NMT through matching gifts.





### Luis "Lucho" Bernadez, II

**B.S. Physics, 1984**

Luis "Lucho" Bernadez, II was born January 17, 1962 and passed away July 20, 2021. Following a courageous two and a half year battle with brain cancer, Luis J Bernardez II passed peacefully at his home in Bozeman, MT, at the age of 59, surrounded by his family.

Luis was born in Harlan, KY, to Pat Cahill Bernardez and Luis Bernardez. Growing up in Santa Fe with his sister Pita and brother Juan, Luis attended St. Francis Elementary School and St. Michael's High School.

While at New Mexico Tech for his undergraduate work, Luis enjoyed his studies and met friends who remained an important part of his life.

After college, as a student employee at Lawrence Livermore National Laboratory, he earned his Master's Degree in Physics from UC Davis. Luis then worked at Sandia National Laboratory ("the other lab") for the rest of his career. He also contributed at Los Alamos National Laboratory. Not surprisingly, Luis made additional lifelong friends during this time. He knew from an early age that he wanted to be a scientist, and thoroughly enjoyed his career as a physicist, earning several patents for his inventions.

Luis's lust for life expanded when he met Kellie 27 years ago, as he found a true partner and gained a son, Harrison. Following their marriage, Luis, Kellie and Harrison moved to Livermore into a house that, naturally, Luis purchased from a friend at work. They lived in that house until they retired. After a few years of searching for the perfect spot to retire, they landed in Bozeman, MT.

Luis was just as passionate about his hobbies as he was about his work, and was always up for outdoor adventures, whether it be cycling, shooting, camping or hunting. Luis frequently competed in shooting competitions, and was a State Champion of marksmanship in multiple states. He served on the Boards of the Sunnyvale Rod and Gun Club and the California Rifle and Pistol Association. He also was a member at the Avenal Gun Club and was responsible for starting the Long Range Precision Rifle Match in Avenal.

Cycling was also a large part of his life and he rode most days and many miles on his bike. In 2013 Luis and Kellie traveled to France so he could ride several of the previous stages of the Tour de France (the Alp d'Huez was his favorite). In 2019, having just completed his cycle of chemotherapy, Luis completed his fourth Ride the Rockies in Colorado. This ride totaled 434 miles over eight days and raised money for Team Samaritan. Luis was in training and hopeful to complete another Ride the Rockies this year.

Luis was often the life of the party, flashing his contagious smile, teaching a scientific trick or just making others laugh. Luis' happiness and upbeat attitude was admired by many. Even with a terminal diagnosis, he was an inspiration of resilience; always moving forward, living the best life he could.

Luis is a beloved husband, father, son, brother, brother-in-law, uncle, nephew and friend. Lucho will be missed by his family and many friends. Given Luis's enthusiasm for others, his memory may be honored by contributions to any of the shooting or cycling groups listed above or to the donor's favorite charity.

Visit our ***Giving Page*** to make a tribute gift to honor a friend, classmate, or favorite professor.

Support their favorite department or program with a message.

Go to <https://www.nmt.edu/advancement/donate>

## IN MEMORIAM - ALUMNI



### Patricia Creveling Giclas

**B.S. Biology, 1970**

Dr. Patricia Creveling Giclas was born March 17, 1938 in Albuquerque, NM and passed away Monday September 27, 2021.

Patsy, as she was called by family, friends and colleagues, was an international pioneer in the field of complement research (the first line of defense in one's innate immune system) and diagnostics. After years of research and development she founded the first complement diagnostic laboratory at National Jewish Health in Denver, CO and proceeded to help patients,

physicians and drug companies understand and treat life threatening complement disorders.

While she was proud of being one of the world's leading experts in her field (honored with the Pioneering Women in Complement Research Award, <https://www.complement.org/pioneer-women>) she was equally passionate about art and was an accomplished painter, sketch artist and wood block printer. Family and friends everywhere looked forward to her annual Christmas cards - each a unique wood block print created in her studio.

Patsy also was a foodie. She loved to cook and was celebrated, by family, for weekly sourdough waffles, checkerboard cake and NM red chile enchiladas among other favorites. She likewise enjoyed playing the piano, dancing and was an avid outdoorswoman.

A powerful scientific pioneer and a creative soul, she loved her family deeply and we will miss her terribly. She is survived by her husband of 63 years Henry "Hank" Giclas Jr., sons Henry III (Kathleen) and Patric (Gail), and grandchildren Hannah, Eli, Henry IV and Emma.

In lieu of flowers and cards the family asks friends and family to consider a donation in the name of Dr. Patricia C. Giclas to the Arizona-Sonora Desert Museum (Patsy's favorite charity) where she served as a docent for several years - (<https://desertmuseum.org/support/ongoing/donate.php>).



### Caitlin "Cate" Elizabeth MacQueen (Guenther)

**B.S. Physics with Astrophysics Option  
and B.S. Mathematics, 2014**

Caitlin (Cate) Elizabeth MacQueen (Guenther) of Edgewood, NM and Melbourne, Australia left this world on August 27th, 2021 in Melbourne, Australia. She was born on August 22, 1991 in San Antonio, TX.

As the daughter of military parents, Caitlin lived in Texas, Arizona, and Panama but primarily grew up in Edgewood, NM. She began her pursuit of a career in science that never ended by earning a B.S. in Physics with Astrophysics Option and a B.S. in Mathematics (two degrees in five years) at New Mexico Tech. There she was a member of the Alpha Sigma Kappa (Eta Chapter) sorority and student government.

She relocated to Melbourne, Australia to earn her M.S. in Physics (with Distinction) in 2016 and then pursue her Ph.D. in Experimental Particle Physics, both at the University of Melbourne.

At the time of her death, she was in the final stages of earning her Ph.D. Her brilliant research will continue as her legacy; her contributions have been noted in



over 65 papers. She pioneered the Melbourne efforts on the search for dark matter and axion-like particles with both the Belle and Belle II Collaborations (Dark Sector Physics).

Caitlin was a First-Year Tutoring Fellow and an active member of the Post Graduate Physics Student Society. She had been a member of the Equity and Diversity committee, advocating for diversity and inclusion initiatives. Her zeal for science and physics showed not only in her appetite for learning but also in her dedication to physics education and women in science.

Caitlin was an avid plant whisperer and lover of the arts. She was a creative artist who loved to paint, draw, and write as well as express herself in tap, ballet, modern and lyrical dance. Cate had an amazing sense of fashion and could pair anything with pearls and sunglasses. She was rarely caught without a perfect manicure.

Her gift of life to others through organ donation will leave part of her in a country she loved and called home over the last seven years.

She is survived by her mother, Bridget Guenther; her stepfather, Tank Guenther; her step sister, Jenna Guenther; niece, Domino Hayden; half-brother Tristen Lang, her grandmother, Gillian MacQueen; her Grandfather, Ernest LaBreck and his wife, Linda; her Uncle, Matt Bauer and his wife, Krista; and numerous other extended family members and friends who adored her. She is preceded in death by her great grandmother, Jean Smart and her biological father, Tracy Lee Byrd.

Gifts honoring Cate's memory may be made to the **Caitlin Guenther MacQueen Memorial Scholarship for Women in Physics** at <https://advancement.nmt.edu/-nmt-giving-pages/ways-to-give-guenther-macqueen-tributes>.



### Simon Boyne Russell

**Bachelor of General Studies, 2003**

Simon Boyne Russell was born in Saskatoon, Saskatchewan, Canada, the only child of Robert and Christine Russell, on 06 September 1974.

He received a B.S. in General Studies from NM Tech in

2003. In May 2002, he earned his Bachelor of Science in Geological Engineering, graduating Magna Cum Laude, from the University of Arizona. In December 2012, Simon obtained a Master of Engineering, Mining, Geological and Geophysical Engineering degree, also from the University of Arizona, where his emphasis of study was mine management and mineral economics.

Simon passed peacefully in his sleep on 29 December 2021 at his home in Taos, NM. He was preceded in death by his mother Christine. He is survived by his father Robert, his ever-faithful canine companion Bo, and many, many friends and loved ones who will miss him greatly and remember him dearly. Please follow the link below to read the full obituary.

Gifts honoring Simon's memory may be made to Cancer Foundation for New Mexico (<https://cffnm.org/>) or Kitchen Angels (<https://kitchenangels.org/>).

*(Contributions to this article were made by Robert Russell, Patti Dorn, Mason Hutchison, Javier Martinez, Ben Gunderson, Shannon Kelly, and Edie Castañeda)*

To read the full obituary written by Russell's family and friends, go to <https://advancement.nmt.edu/Russell>.

Explore past issues of Gold Pan alumni magazines, meet Alumni Award and President's Medal recipients, browse Porphyry yearbooks, or join the NMT alumni directory (free!) to find friends and classmates.

They're all at <https://www.nmt.edu/advancement/>

## IN MEMORIAM - ALUMNI



### Ward Thomas Sumner

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**M.S. Geology, 1981**

Ward Thomas Sumner passed away September 1, 2021. Ward was born August 5, 1950 in Ft. Sill, OK. His family lived many places during his father's career in the US Army. In order to establish a "home base" the family bought a cabin in Grand Lake, CO from which they would hike, ski and camp, taking any excuse to enjoy the outdoors. Holly, Ward's sister, continues to maintain a home there.

In 1955 his father, Gordon, was posted to Germany where Ward started school in a German speaking classroom. While in Europe Ward's mother, Mac, began her career in the Girl Scouts. Hiking, camping and skiing in the Alps with Scouts and family deepened Holly and Ward's love of the natural world. He had an innate sense of direction, even helping his parents navigate through Europe at an early age. This ability served him well as his love of geography and travel continued throughout his life.

Eventually, the family moved back to Washington, DC. After graduation from high school, he studied Geology at the University of Colorado, Boulder, spending every spare minute hiking or skiing. Ward continued his education by earning his Master's degree from New Mexico Tech.

The following summer he began to do field work in Alaska followed by mineral exploration throughout the Western US, South America and parts of Europe. He was a specialist in Mexico where he consistently worked as an independent contractor for 20 years.

Ward and Barb Birdsall met through friends in Tucson, AZ. They married in 1993 after Barb finished a post-graduate degree in English. They headed to Mexico and spent a year in Culiacan, Sinaloa, Barb teaching English and Ward successfully advancing a drilling site for gold outside of Culiacan. He had to negotiate permission to develop land according to local business and cultural values. He knew just enough Spanish and had sufficient wit to charm his way through any discussion. This endeavor launched many further trips and experiences around Mexico while Tucson became home for the next 25 years.

In 2015, they did the opposite of most couples in their 60's by moving from the Arizona desert to the cool and snowy mountains of Clark, CO, just north of Steamboat Springs. Ward truly loved it there! For him there was nothing better than to drive back roads in any season or to watch the shadows lengthen across the valley toward the Zirkel Mountains. He enjoyed meeting friends at the Roadhouse, a local pub, entertaining with his dry sense of humor, sharing stories and exploits. He was generous in every way.

Ward was a one of a kind guy, and will be missed. Tributes may be made in Ward's honor to the Girl Scouts of Colorado at <https://www.girlscoutsofcolorado.org>.



### Glenn Harold Warner

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**B.S. Petroleum Engineering, 1977**

Glenn Harold Warner of The Woodlands, TX, passed away September 3, 2021. He was born in Phoenix, AZ on May 23, 1954, to Harold and Shirley Warner.

Glenn graduated from Highland High School in Albuquerque, NM, and received his B.S. from New Mexico

## IN MEMORIAM - ALUMNI

Tech in 1977. He was married to Mona C. Guthrie on August 5, 1995.

Glenn had a long career as a drilling engineer in the oil industry after joining Gulf Oil shortly after graduation. He retired from Chevron Oil after more than 40 years of service after they merged with Gulf Oil in 1985.

He was a member of the Society of Petroleum Engineers and the Montgomery County Master Gardener

Association with a passion for the Lord, his family, cars, cooking and gardening.

He is survived by this wife Mona and their children, Catherine, James and Valerie; and his brothers Terry Warner (Neatice) and David Warner (Carol).

Fond memories and expressions of sympathy may be shared at <https://www.dignitymemorial.com/obituaries/the-woodlands-tx/glenn-warner-10343328> for the family.



### Rebecca "Becky" E. Wenk

**B.S. Biology, 1983**

Rebecca (Becky) E. Wenk, age 59, passed away Monday April 7, 2020.

Becky was a lifelong resident of Albuquerque's South Valley. As a young girl, Becky had a deep love for horses and was involved in 4-H where she excelled in sewing and cooking.

After graduating from Rio Grande High School, Becky went on to study biology at New Mexico Tech, and later received her master's in toxicology from UNM.

Becky proved to excel at most everything she did. She used her biology degree in her work at UNM carrying out magnetic resonance imaging studies and at Cell Robotics where she also became that company's go-to IT expert. Later she learned federal project management while working in quality assurance at Los Alamos National Laboratories and will be deeply missed at PNM where she served as a regulatory analyst. Her colleagues at PNM will remember her infectious smile, exemplary work ethic, and the big shoes she left to be filled.

Becky had a love for RVing and belonged to three RV clubs; New Mexico Excel Club, Colorado Excel Club, and Siesta Club. Becky shared this passion with her mother. You could often find the two on their way to mark another national park off their list. Before Becky's passing, they were able to see all the western parks together

Becky was preceded in death by her father, John O. Wenk. She is survived by her mother, Grace Wenk; her brother, John F. Wenk (wife Shelly); her nephew, Dillon Wenk (wife Olivia) and nephew, Dalton Wenk.

Your gifts further New Mexico Tech's academic and research goals while allowing you to support your special interests.

Visit our **Giving Page** to see the many ways you can contribute to New Mexico Tech students, departments, and research program.

Go to **[www.nmt.edu](http://www.nmt.edu)** and click the **Give** option at top right



# IN MEMORIAM - ALUMNI

## Fred S. Wright, III

### B.S. Petroleum Engineering, 1985

Fred S. Wright, III passed peacefully in his daughter's home in Houston, TX, surrounded by the love, devotion, and prayer of his family on September 10, 2020. Fred was preceded in death by many friends, his beloved uncle T. R. Wright, and his parents, for whom he selflessly served as caregiver in their last years, Fred S. Wright, Jr., and Elizabeth (Betsy) Payne Wright.

Fred was born August 6, 1951 in Midland, TX. He graduated from Midland High School with Honors as a member of the Swim Team and Debate Club. He went on to further his studies at Trinity University in San Antonio, TX, and Southern Methodist University in Dallas, TX, and apprenticed under Taos photographer Disk Spas before earning his degree in Petroleum Engineering.

Fred followed in his grandfather's and father's footsteps

and earned much of his living as a Petroleum Engineer in the oil fields of the Permian Basin, working as a roustabout in his youth and a modern Well Completion Specialist in his later years.

His second home was a log cabin in Southern Colorado built with the collaboration of his parents, brothers, and friends. His heart lived on the river, casting flies for native trout.

He is survived by his wife, Jan Taylor Wright, and their children: daughter Tracy Gauthier Jackson (Dano); son Fred IV (Carmen Mattics) and grandson Fred V; daughter Sara Wright; as well as his siblings, Carol Wright Bailey (Art), Thomas P. Wright (Judy), Fr. Robert E. Wright, Richard W. Wright (Diane), Christopher H. Wright (Cecilia), Shelley E. Wright, and Erle Wright (Marilyn).

Fred was a devoted son, brother, husband, uncle, and father. He loved his family, friends, math and science, fishing, photography, traveling, and campfires. Moreover, he recognized, honored and taught respect, duty, and the value of hard work.

## 1889 SOCIETY



Named for the year the New Mexico School of Mines was founded, the **1889 Society** recognizes individuals who have designated a bequest to New Mexico Tech in their wills, trusts, life income gifts, retirement plans, life insurance designations, or other planned gifts.

**1889 Society** member legacies ensure that New Mexico Tech is able to provide a world-class education to students for generations to come. New Mexico Tech considers it a great honor to be remembered in your will or estate plan.

### 1889 Society Members

Ray Bellande  
Sally (Shipman) Breeden  
Corale and Jim Brierley  
Raul Deju  
Mark Donnell  
John Dowdle  
Anonymous  
Frank Etscorn  
William Henderson  
Charles Javorsky  
Mike and Mary Jaworski  
Susan Keeney  
Anonymous

Anonymous  
Bill Marble  
Randy Martinez  
Jerry Mericle  
Richard J. Miller  
Anonymous  
Marty Nelson  
Anonymous  
Deborah Peacock  
Mark Person  
and Deborah Bankson  
Brian Peterson  
Jack and Rita Purson

Anonymous  
Anonymous  
Donna Rogers  
Anonymous  
Anonymous  
Anonymous  
Anonymous  
LaVerne and Melvin Yazzie

#### In Memoriam

Mary Javorsky  
Charles Millar

## THE LAST WORD

### SARAH SKRIEN

**Sarah Skrien** is a Junior majoring in Petroleum Engineering with an expected graduation date in May, 2023. Born and raised in Albuquerque, NM, Sarah says, “Albuquerque is a small city so it can be hard [for young people] to find entertainment at times, but I enjoy all the local food and culture. I was part of my high school dance team and there were always competitions and challenges for us to face, so that was nice.”



Sarah started as a Mechanical Engineering major at UNM, but “did not find it interesting enough.” She changed her major to Petroleum because “it was something new to me, and from the small amount of research I had done...it piqued my interest.” She transferred to NM Tech in Fall 2021 because of our Petroleum Engineering program, noting “I wanted to stay in New Mexico and NMT provided me with all of the things I wanted in terms of location, tuition, and good reputation.”

When asked what it’s like being a woman in a historically male-dominated major, her response is “I don’t really think about it as being all males or females. Our society has been greatly improved with diversity and equalization when it comes to gender, race, religion, etc.; it does not faze me at all.”

Sarah hasn’t yet had a chance to do any research within the department, but has some ideas and goals. She says, “I hope to complete some form of research before I graduate...because Tech can provide the best opportunities for me to gather high quality analysis.” One of her favorite PetroEng faculty members (so far) is Dr. Tan Nguyen because, “He has helped me so much with my classes and overall knowledge of the major.” She hopes to secure an internship in a petroleum-related field this summer and next.

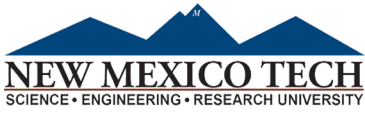
She was awarded a Tech Transfer Scholarship when she started, and has since applied for and been awarded three other NMT scholarships. She says, “They have been my main source of tuition assistance and have greatly helped me to stay at NMT to continue working toward my major goal.”

Sarah’s interests outside her academic studies include dancing, bowling, ice skating, archery, cars, golf, and Pokémon. Having danced for eight years before coming to NMT, she joined the Ballroom Dance student club. She very much enjoys and recommends it to anyone who has an interest in dancing but doesn’t know where to start.

Having been on campus since August 2021, Sarah has been able to attend some campus events: the (holiday) Lighting of the Trees ceremony, a couple of local band shows, and the end-of-semester car smash. She finds that, while Socorro is an extremely small town, she has enjoyed exploring its food options – groceries, restaurants, and delicious food trucks.

Sarah hopes to secure a petroleum-related job before, or right after, graduation to start working and learning more about what goes into an everyday schedule for a petroleum engineer. She encourages her fellow students to “...have an awesome semester; keep working hard in those classes and on homework.”





**New Mexico Institute  
of Mining and Technology**

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