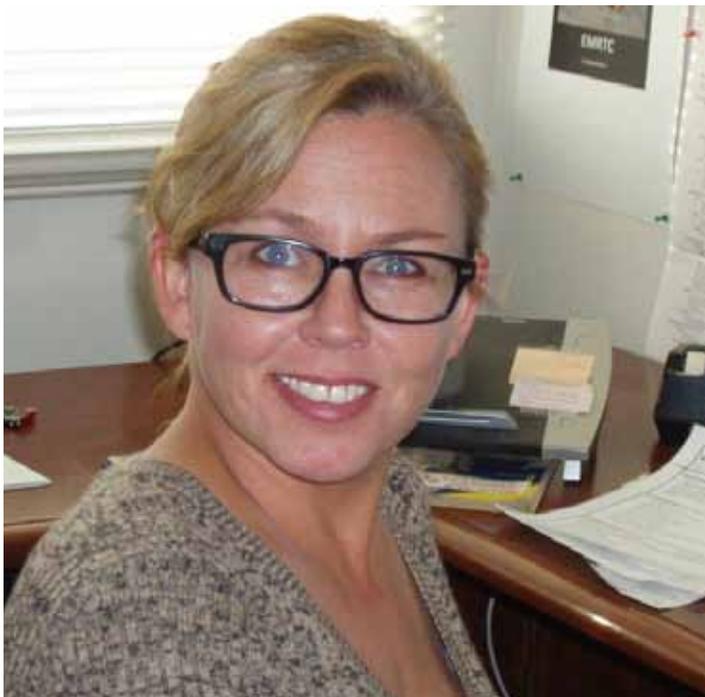


Philip Kozushko, A.K.A. “Miner Phil”, MS in mining Engineering, '83, BS Petroleum Engineering, '85, the New Mexico State Mine Inspector in '94, and Adjunct Professor at New Mexico Tech. Phil is the purveyor of New Mexico Tech legend and lore, and history of mining, minerals, and safety. Take a walk in Alumni Alley at Fidel Center and you will see the Mining History Display showcasing Phil's collection.

A word from the director . . .

Greetings!



Colleen Guengerich
Director of Advancement and Alumni Relations
November, 2014

Letter from the Director
Office for Advancement
November, 2014

Dear Gold Pan readers:

Because Gold Pan is New Mexico Tech's alumni magazine, this letter is addressed to the men and women who have attended this small university specializing in science and engineering education and research.

As director of New Mexico Tech Advancement Office I recognize you, our alumni, are the greatest asset we have. You touch and inspire future generations of Techies each and every day through your work and interactions in your communities. You are the past, the present and future of New Mexico Tech and we thank you for your support.

This issue we discuss legends and lore of New Mexico Tech. We recognize there are many more stories than we can tell in one issue and look forward to receiving letters from you about

the legends and lore from your days at New Mexico Tech. As New Mexico Tech celebrates its 125 year and we look forward to the next 125 years and beyond we know that you will continue to partner with us as we navigate this journey together. Early next year the New Mexico Bureau of Geology and Mineral Resources will move into their new building. I urge you to visit and tour this and other buildings on campus. While you are visiting campus please stop by the Advancement Office in the Fidel Center.

My staff and I will be traveling a great deal this coming year and look forward to meeting as many of you in person as possible at one of the many New Mexico Tech alumni receptions. New Mexico Tech is an extraordinary university and, thanks to you, we are getting better!

Sincerely,

Colleen Guengerich
Director of the Advancement Office



inside GOLD PAN ALUMNI MAGAZINE

thank you to our donors!

Gold Pan is published by New Mexico Institute of Mining and Technology (New Mexico Tech) for alumni, faculty and friends, by the Office for Advancement, 801 Leroy Place, Socorro, New Mexico 87801.

Editor and Writers

Colleen Guengerich, *Editor*
Thomas Guengerich
Valerie Kimble

Design

Eddie Steinhoff

Photography

Thomas Guengerich
Eddie Steinhoff
Steve Voit
Steve Voit Photography

Administration

Dr. Daniel H. López
President
Dr. Warren Ostregren
Vice President for Academic Affairs
Melissa Jaramillo-Fleming
Vice President for Student and University Relations, Dean of Students
Lonnie G. Marquez
Vice President for Administration and Finance
Dr. Van Romero
Vice President for Research and Economic Development

Contact us:

Colleen Guengerich
Director 575.835.5352
cguengerich@admin.nmt.edu

Heidi Brown
Associate Director 575.835.5292
hbrown@admin.nmt.edu

Lynn Osorio
Associate Director 575.835.5205
losorio@admin.nmt.edu

Theresa Kappel
Special Events Coordinator
575.835.5525
tkappel@admin.nmt.edu

LaVern Robinson
Administrative Coordinator 575.835.5616
lrobinson@admin.nmt.edu

Eddie Steinhoff
Marketing Coordinator 575.835.5620
esteinhoff@admin.nmt.edu

New Mexico Tech's Advancement Office has completed its annual Phone-a-thon.

Undergraduate volunteers staffed the phones, calling Tech graduates and donors to solicit donations that will help current students with scholarships, capital improvements and other amenities.

All donations are 100 percent tax-deductible. Donors are encouraged to support the unrestricted Alumni Fund, but donors can also specify a recipient or project.

Anyone who did not receive a phone call is encouraged to donate by calling LaVern Robinson at 575.835.5616 or visit the secure website at advancement.nmt.edu/donate.

This year's efforts reflect both the Board of Regents directive to increase private giving and the new five-year strategic plan that emphasizes the same.

"The Board has directed us to enhance our private giving campaign," university President Dr. Daniel H. Lopez said. "This effort is also consistent with our strategic plan."

The Advancement Office continues to host alumni receptions across the country. December events were in Farmington, N.M., and San Francisco. January receptions are: the 13th in Dallas and the 14th in Ft. Worth TX, Las Cruces NM on the 20th, El Paso, TX the 21st and Santa Fe, NM on the 27th.

The Advancement Office is also reaching out to build relationships with industry. Heidi Brown, the new associate director of the Advancement Office, said she expects to host more get-to-know-Tech events with potential supporters of New Mexico Tech.

TABLE OF CONTENTS

Features

- From the Director* 2
- Letters to the Editor*..... 4
- Where Are They Now?*
Giovanni Luchetti.....9
- Legends and Lore*
Workman Center..... 12
- 49ers 2014*..... 18
- Pranks*..... 20
- Alumni Spotlight*..... 23
- Sports @ Tech*..... 25
- Traditions @ Tech*..... 27
- Research @ Tech*
Environmental Engineering..... 33
- Faculty @ Tech*..... 35
- Tech Golf Course* 39
- Memorabilia*..... 40

Departments

- Construction*
- Bureau of Geology*..... 15
- Career Services*..... 17
- Calendar*..... 22
- People You Know* 41
- In Memoriam*..... 43
- The Last Word:*
Brigitte Ek 47

<http://www.nmt.edu>

Toll-Free Numbers
1.800.428.TECH (8324)

- Admission:Press 1
- Financial AidPress 2
- Graduate OfficePress 3
- Advancement.....Press 4
- HousingPress 5
- RegistrarPress 6

letters to the editor:
Wilma Moore

Editor's Note: The following letter was sent to a regular Gold Pan contributor, Valerie Kimble, by her friend Wilma Moore, who has her own memories of the early years at Langmuir Laboratory. Mrs. Moore, now 89 and still living in the Socorro home she shared with her late husband, Charlie, has graciously agreed to share her letter with all Gold Pan readers.

Arriving in Socorro some 50 years ago, she adjusted to the change from their previous home in Boston, but insisted on one civility: Delivery of the Sunday edition of The New York Times.

Dear Valerie:
Thank you for *Gold Pan*. I forgot about it for a bit and so I took it to bed with me, thought I would browse through it for a while, but I couldn't stop reading it. I started with Earl. I remember the winter he and Mary spent on the mountain. Seems scary but very interesting to see what animals come

out of hibernation and when, what birds survive the winter, all the little and big critters that live free! And then all those amazing women! Wow, how do they do it?

I noticed that Romaine Ausman wrote about Earl. I have often wondered about that family. She was pretty amazing, too. They lived in the house next to the Richardson family on School of Mines Road. They invited us to dinner one night and she had a fabulous meal. I remember tender steaks and fresh asparagus and that's about all. Everything cooked to perfection. I think she must have been a home economics major. She also was a seamstress and inventor! She made little girls' reversible dresses, if you can imagine. No doubt they would be appreciated by mothers and they were displayed in the windows of a clothing store on the Plaza. I remember the lunches for wives of students graduating in May and probably Sally Smith originated those.

Your article was excellent. Really brought Sylvia to life and a busy life it is. That was a wonderful trip for you and Colleen to make to Idaho! Have you ever seen any of her toys? She manages so many things in life – from science, love of animals, saving the planet and now children and motherhood. How does one person have this much energy, diversity, and ability? Amazing!

Of course, Irene Scott was no slouch and did so much when women were considered helpmates or housewives but never scientists. And it is interesting that both she and Sylvia had their own firms.

As I said, I went on to read the whole magazine. I might pass it on to Klea who would also be interested. Yes, Klea is a great seamstress. Don't know if she still makes quilts but she used to win prizes for them at the County Fair.

Wilma Moore

Al Cooper

Good morning Colleen,

I think you did a great job on the current issue of *Gold Pan* alumni magazine. I must admit that I was kind of grumbling to myself as I was leafing through it thinking "Geez, they had better have put Christina in there." Sure enough, you had two pages devoted to Dr. Balk. I didn't recognize her picture at first and that is what I was looking for.

Dr. Balk was one of my Geology Professors from 1968 to 1971. She was indeed a very unique professor and deserves all of the recognition and more that you aptly gave her in the *Gold Pan*. I took Historical Geology, Stratigraphy and Sedimentation from her. I would have loved to have taken a Paleontology course from her, but it just wouldn't fit into my schedule. She expected a lot from her "boys," as she fondly called us. Any one of her courses could



have easily taken up the entire semester's time just with all of the reading, research, field work, lab requirements and reports. Many of the tools that she taught me were carried on into my early career as a geologist and then mine engineer. One of my least memorable experiences was when she would be handing back our tests – always essay tests. She would walk down each aisle and place our exam on our desk. Quite frequently when she was doing this, she would look me straight into the eye and say, "You could be doing better Cooper"! My goodness, but I will never forget that. It made me feel about an inch tall. I also remember one comment that she put on one of my answers, "You don't know what environment means." Well, look at my title now! Geez!

I can remember many field trips (mainly to Carthage, N.M., east of San Antonio) with her. She was always way ahead of the crowd of her "boys" lecturing and

waving her hands one way or the other describing the formations and their environment during deposition. She wore combat boots as her field attire of choice along with a canvas or "duck" field skirt. Most of us (19 to 21 years old) had to increase our pace and even run just to keep up with her. I can still picture her driving the old "brown bomber" from San Antonio to Carthage and dropping us all off to do one of the field exercises – usually mapping sections. One time after a rather long, hot day in the field a couple of us begged her to stop and let us off at the Owl Bar in San Antonio. She was very gracious about it, pulled up next to the bar, opened the door and said, "Have fun, boys!" We found our way back to Tech after that.

You could always tell where she was around campus because she was always driving a late 60's vintage Ford pickup with a sign in the back window with "Siamese Cats For Sale" hand written on it. There were other very

memorable times such as the when I saw her putting up a poster about the whales (around 1976). She turned around, looked at me, smiled and said, "Save the whales." Another time she was putting in volunteer time at a church across the street from Brown Hall doing volunteer work – pulling weeds!

We exchanged Christmas cards every year. I last saw Dr. Balk around 2004 or 2005. I would look her up when I was in the Santa Fe area and go visit her.

The last time I brought her flowers for her room – and that was the very last time I saw her. She was going downhill, but still had that very bright and infectious smile. Christina Balk was truly one of the greatest professors in the history of New Mexico Tech.

Al Cooper
Chief Environmental
Engineer
Freeport-McMoRan Copper
& Gold, Inc.

Ann Stacy Coppin

Dear Editor,
 I enjoyed the pictures and letter about Langmuir Lab in the summer issue of *Gold Pan*. I have fond memories of mapping the geology around the lab in the summer of 1967. I stayed in a room in the lab so that I didn't need to drive my Valiant sedan up and down the mountain each day. The Montgomerys made me feel very welcome to stay at the Lab. I remember them telling me how one time a lightning bolt came in one window of their sitting room and went out the window adjacent on the other corner wall. Since I was taking the third semester of calculus at the same time I was doing the mapping, I did make several trips back and forth to New Mexico Tech to turn in assignments, get new work, and take tests. In fact, I met my future husband on the mountaintop.

Sincerely,
Ann Stacy Coppin

Lester C. Welch, Ph.D.

To the Editor:

I enjoyed the article about Prof. Balk - especially her relationship with cats. I am a Tech grad (Bachelor's in physics, 1962) and took a course in biology from Prof. Balk. I had taken the first semester of geology from Prof. Smith but found my color-blindness was a handicap. I had trouble identifying the minerals where color is an important clue. So, instead of the second semester of geology I opted for biology.

Prof. Balk took full advantage of her cats. When one of the cats died, she would bring it into the biology lab to be dissected by the students – a fitting end for one of her pets to play a part in education.

Lester C. Welch, Ph.D.

Bill Hume

Dear Editor

I enjoyed the item in the Summer 2014 *Gold Pan* about Dr. Jose Lopez,

distinguished NMT grad.

You may already know – but if you don't, you should – that his brother Estevan Lopez, currently director of the N.M. Interstate Stream Commission and commissioner-designate (awaiting Senate confirmation) of the U.S. Bureau of Reclamation, is also a Tech graduate.

I worked with and greatly admired Estevan during my years working in Santa Fe in water matters during the Richardson administration. Two brothers, both from tiny Peñasco, who made it through New Mexico Tech and on to distinguished careers are perhaps worthy of joint note.

Regards,
Bill Hume

Indeed, Estevan Lopez earned two degrees from New Mexico Tech, bachelor's degrees in chemistry and petroleum engineering. He has 25 years experience in the public sector, including the last 11 years as director of the Interstate Stream Commission, originally

appointed by then Gov. Bill Richardson in 2003 and re-appointed by current Gov. Susana Martinez. – ed.

Tom Scanlan

Dear Editor,

First, I'd like to compliment you on an outstanding, women-oriented *Gold Pan*. Nice focus, great research and writing, good photos all around. I really enjoyed it, especially having raised two daughters, both of whom earned master's in science. Kudos to you and all your staff who made this a special issue!

Second, I noticed that this year is New Mexico Tech's 125th anniversary. Would you know if anyone has compiled a list of students who have attended your college over the years? An uncle of mine, Tom Irvin, attended and possibly graduated from New Mexico School of Mines, mining engineer, in the 1920's. A cousin of mine, Paul Brink, attended in 1948. Would there be any records available of

either of these? Is there a digitized searchable data base of such? Let me know what might be available.

So sorry Rosemarie and I weren't able to attend the last reunion in San Diego. Maybe next time.

Again, great job on this last *Gold Pan*. It's a keeper.

Tom Scanlan
NMIMT 1955-57,
Geophysics

Good questions, Tom! New Mexico Tech does have an online alumni directory to search for classmates. All Tech alumni and students can search for alumni by name, city, or class year. You will not be able to see the directory until you register. Visit <http://www.nmt.edu/advancement> and click "Alumni Directory." – ed.

epilogue

Hlea Montgomery

Earl and Mary
Montgomery and
Langmuir Lab

Editor's Note: The letter from Romaine Johns

Ausman in the Spring 2014 issue of Gold Pan about Langmuir Lab's Mary and Earl Montgomery generated a great deal of feedback – which, of course, we love getting. We had calls, letters and heard additional “remember when?” stories almost everywhere we went. Among those we spoke with was Klea Montgomery, who later married the widower Earl.

In the mid-1960s, Klea Towery and her husband Junnie were friends with Mary and Earl Montgomery through their respective children, and greatly enjoyed each other's company. In fact, it was Mary who asked Klea, then separated from her husband, if she would take care of Earl, for Mary at that time was in the final stages of a terminal illness and was worried about leaving her husband alone. She died several weeks later.

Mary and Earl, you will recall, were the caretakers at Langmuir Laboratory, and lived together on the mountain pretty much year-round. The Lab was

isolated in the winter, but that serenity allowed wildlife to wander freely without disturbance, and afforded the couple a view of nature's stark beauty.

Mary took advantage of this time and place to begin and develop her talent at oil painting, and spent a lot of time on that joy.

Summers, of course, were a different story, with the couple preparing for and cooking three meals a day for a host of researchers and some 40 “Schoolies.” That was when the Lab was most alive, a veritable buzz of voices and equipment amid a backdrop of laughter and the clang of tableware.

The Montgomerys remained on the mountain until Mary's health worsened and they moved to Socorro where she died in 1968.

Klea Montgomery recalls that the position at Langmuir Lab brought Mary and Earl to Socorro in the early 1960s. Earl had owned a business in

Albuquerque for a number of years shampooing carpets and upholstering furniture. One day they saw an advertisement in *The Albuquerque Journal* for the Langmuir position, and it wasn't long afterward that Dr. E.J. Workman hired them. “Earl was somebody who could take care of anything,” Klea recalled.

Klea and Earl married in 1969, and although she encouraged him to return to the mountain for another summer, he refused, saying he had had enough. Still, there were plenty of jobs to keep him busy: Earl took care of the big trucks that rumbled up and down the mountain, and ensured that the winding road to the Lab was always open, not an easy feat in the winter.

“He was a jack of all trades,” Klea said.

She recalled the time Earl drove a large equipment truck to NASA headquarters in Florida with atmospheric physicists Marx Brook and C.B. “Charlie”

Moore, who were there to study the effects of a potential lightning strike on a space shuttle the agency was developing. NASA accepted the recommendation of the visiting Tech researchers and gave the green light, launching the experimental shuttle in the face of lightning forecasts. Klea accompanied her husband on one such trip to Cocoa Beach.

Mrs. Montgomery, a native of Mancos, Colo., moved to Albuquerque in 1939. She had been working in the fabric department of J.C. Penney at Winrock Center when Earl, taking his late wife's advice, called Klea one fine day, and they married months later.

After moving to Socorro, she joined the local office of Mountain Bell, where she spent 14 years as the business office representative.

Mrs. Montgomery, now 90, is quite well known locally for her skills as a seamstress, especially for her blue-ribbon-winning

quilts. She took up quilting when the Socorro office of Mountain Bell was closing, and employees were offered jobs if they would transfer to Ma Bell's Albuquerque office.

She accepted the offer, along with the late Dorothy Robison, and the two of them shared an apartment.

"We took up quilting more or less together," Mrs. Montgomery said. "We'd spend our evenings quilting, and then drive home for the weekends."

The pair worked long enough to retire, which she did in 1984. In the 1990s, Klea and Earl worked as a team with their drapery and blinds business, eventually retiring and selling the business.

Earl Montgomery died on April 1 five years ago. Klea still meets up with friends for lunch; and, yes, she still quilts, and as of this writing has a lap quilt in progress. She noted that Romain Ausman and her

husband planned to return to campus in October for 49ers.

"I met her one time," said Mrs. Montgomery. "It would be interesting to see her again."



We want to hear from you! Send us your feedback—anything that's on your mind: good or bad, compliments or criticisms—we want to hear it. If something is bothering you, we'll work to fix it. If you like something we're doing, we'll continue to do it. Your insights are critically important, and we want to make sure we're continually raising the bar on your experience with us! Contact the Advancement Office at 575.835.5616, email us at alumni@nmt.edu, or send a letter to Gold Pan, 801 Leroy Place, Socorro, NM 87801

Golden Anniversary REUNION

Class of 1965
50th Reunion
May 8, 2015
7pm



Walk with the class of 2015
May 9, 2015
9am



We rely on the lifelong friendships made at Tech to help us find alumni who have moved or changed names over the years, causing us to lose contact with them.

If you recognize someone on the list please provide us with their information (i.e. address, phone number, e-mail address, married name) or ask them to contact us at alumni@nmt.edu.

William O. Cain
Kenneth A Grace
Chandulal P. Patel
Dan D. Rabinowitz
Moehammad Sanoesi
H. Kent Wainwright

where are they now?

Giovanni Luchetti, '07

Giovanni Luchetti

It is quite a distance from the Luchetti family farm in northern New Mexico to Stanford University – a thousand or so miles as the crow flies – with a stop at New Mexico Tech along the way.



Giovanni Luchetti

For Giovanni Luchetti, the journey was enriched with a solid, if not winding, academic education – and in following his father's advice by enrolling at the small science and engineering research university in Socorro. He graduated with a bachelor's in biology in 2007. Today, Luchetti is a

doctoral student at Stanford, where he has spent the past three years studying a central developmental signaling pathway called the "Hedgehog Pathway." The Hedgehog signaling pathway plays central roles in development and cancer.

The New Mexico Tech alumnus returned to campus in September, 2014 to give a presentation on his research.

He was born in Espanola, NM on September 30, 1983, to Dennis and Myra Luchetti and grew up on his father's farm in La Puente, NM, very close to Abiquiu.

"Science was always at the center of my interests," he said. "In fact, I was encouraged from an early age to pursue my undergraduate education at New Mexico Tech where my mentors, including my father, agreed had the best reputation in our state."

Initially, he began his undergraduate education in computer science.

"I had never programmed in my life, and only in retrospect can I see that the deficiency was in my own perceptions of what that degree entailed, and not in the program itself," Luchetti said. He

credits a good friend, Adam Manzanara, for encouraging him to abandon computer science and pursue other options.

"Specifically, Adam and I came from similar cultural and educational backgrounds in northern New Mexico, but I quickly caught on to how much more rapidly the material came to him than it did to me," said Luchetti, who still keeps in touch with his former classmate who works for Western Digital in San Jose, CA.

"I made the decision to change my major to biology in my second year at Tech," Luchetti said. "I can't say for sure why this seemed a natural choice – perhaps I was inspired by my close friend Eva Levi, a pre-med major I had met while in Algebra my first year. Whatever the reason, I will say that reading my biology textbook while taking Dr. Kevin Kirk's introductory course led me to realize a deep passion for understanding the fundamental processes of living systems.



Giovanni Luchetti with his mother and grandparents at their home in northern New Mexico.

where are they now?

Giovanni Luchetti '07

I was immediately satisfied with how well I could read and comprehend the material I was expected to know independent of the lecture material, not to downplay Dr. Kirk, who never failed to provide an absolutely stimulating and didactic experience in all his courses,” he said.

Luchetti’s interest in life sciences strengthened when he met Dr. Snezna Rogelj, who taught a cellular biology course with Dr. Al Smoake.

“That course alone intensified my interests because of how vast our



Giovanni Luchetti and Tech biology professor Dr. Snezna Rogelj at his graduation.



Giovanni Luchetti at his master’s defense party with former Tech professors Dr. Alexander Kornienko (left) and Dr. Igor Magedov (right), who passed away in 2013.

knowledge seemed to be circa 2004, and allowed me to develop strong connections with other members of the Biology Department,” he said.

The following year, while in Molecular Biology with Dr. Rogelj, Luchetti was invited to work in her research laboratory essentially as a technician. The Tech biology professor did not have a specific research project for him, but she did provide an environment within her research laboratory where

Luchetti maintained chemical stocks and inventory.

“I took this opportunity to learn as much as I could from Snezna and her graduate students,” said Luchetti. “In my last summer before I obtained my bachelor’s degree, I was able to participate in an NSF-funded summer research experience program spearheaded by Dr. Michael Pullin. That summer I worked half-time in Dr. Alexander Kornienko’s lab in the

Department of Chemistry where I eventually decided to pursue my master’s degree.”

Luchetti’s undergraduate work with Dr. Kornienko quickly materialized into a second-author publication during his first semester of the graduate program. Two first-author publications followed that initial one the following year.

“My prolific experience with Alex led me to change from a master’s student to a Ph.D.,” he said. While this change in all respects seemed at the time the best possible decision, Luchetti soon realized that the dream he had as an undergrad, to pursue higher education in biology, was vanishing with each year spent in chemistry.

“I acquired a strong skill set in synthetic organic chemistry and even spent a summer in Naples, Italy, with Professor Antonio Evidente, where I learned the art of natural product extraction, purification and characterization,” he said. “That work led

to a final first-author publication where I described the structure of a natural product purified from lilies.”

Meanwhile, Luchetti had already been accepted to Stanford's Department of Biochemistry prior to the submission and publication of his final paper with Dr. Kornienko. He was invited to initiate his graduate training at Stanford over the summer ahead of the incoming fall class that year.

“While on my interview, I met my current Ph.D, adviser, Dr. Rajat Rohatgi,” he said. “Although I did not formally interview with him during recruitment week, his work excited me on every level because of his approach to the problem, and the skill set it required.”

The freshly minted doctoral student and the academic advisor met during a faculty poster session, where Luchetti was immediately drawn towards a poster by Dr.

Rohatgi containing the chemical structure of a cholesterol metabolite being investigated in his laboratory.

“When I stopped to introduce myself and question him about his work, he immediately remembered my application because of the natural product work I had experience in,” Luchetti said. “I'll never forget what Raj said: ‘You're the Plant Guy!’ I rotated over the summer in his lab, and after two additional rotations

joined him.” Luchetti's work with the Hedgehog project is focused on a particular aspect of the core signaling network, primarily how the receptor of the pathway, “Patched,” regulates the transducer of the pathway, “Smoothed.”

“I am approaching a publication summarizing my work in this area in the coming months,” he said. “We are very excited about the implications it will have for our field since this problem has

remained unanswered for over 30 years.”

Luchetti has worked with his academic adviser on many projects, and last year was awarded the Ford Foundation Predoctoral Fellowship.

On his trip to New Mexico, Luchetti took time to visit with family and friends in the northern farming community of his ancestors, where it all began, and which formed the foundation for his life's work.

By Valerie Kimble



Giovanni Luchetti and his adviser Dr. Rajat Rohatgi analyze a film in their new laboratory at Stanford University.



Do you know of an outstanding Techie that deserves to be featured in Gold Pan?

Do you have comments or suggestions?

Make yourself heard!

Email alumni@nmt.edu.

This is your magazine; we want to hear from you!

legends and lore

workman Center
stealth force beta by tom jones

By the time Stealth Force Beta came along in 1990, the New Mexico School of Mines had been known as “New Mexico Tech” to clarify its scientific focus, and Workman Center had grown into one of the greatest architectural marvels of the 20th century. It was a behemoth assembled addition-by-addition over the decades that defied description. Its tenants included the Computer Science Department, Computer Center, the Physics Department, the state Bureau of Mine Safety, the Terminal Effects Research Analysis group, a large Paleontology Lab with crates of dinosaur bones, the Bureau of Mines and Mineral Resources, the Machine Shop, and the most complete mineral museum in the Southwest.

While the overall structure was one single story, atop it were 13 distinct and very different second floors, none connected to each other except by

going back to the first floor. A typical example was a doorway off a side hallway; it led immediately to a long flight of stairs into an area of glass-walled offices that the occupants had christened “Upper Lower Slobovia.” It was an ADA compliance officer’s nightmare.

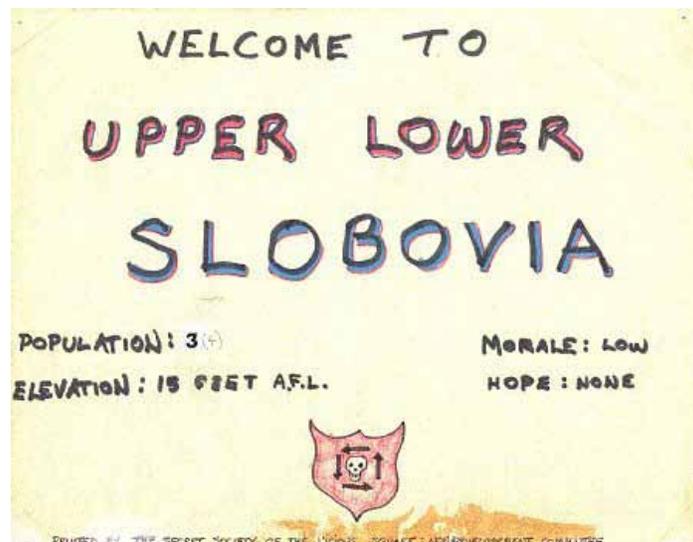
Another second floor was a slice of the six-story Workman Tower built for atmospheric research, with a rotating cupola on top that looked like an air-

traffic control tower, and a secret trap for an elevator (described in [Operation High Exploration](#)). There was a Coke machine in a hallway under a looming shower head.

There was one closet with a colossal fuse panel featuring a 200-amp fuse that had blown years ago, now coated with a half-inch of dust. There was a large paper drum seismometer on display in the

Northwest corner. There was a manhole with an aluminum lid in a hallway. There were mysterious valves on the wall that spewed air and drops of water when opened, mysterious light switches that did nothing but activate unseen buzzing mechanisms in the ceiling, and open telephone junction centers in two bathrooms, as if one might reconfigure the phone network while using the toilet.

The doorway labeled “46” was a locked metal grate about five feet high. A pastime of bored students was to encourage a fellow student (whom we’ll call “the victim”) to go into the men’s room two doors down, stand on the toilet in the lone stall, move aside the ceiling tile, scramble up into and along a large ventilation duct, and then down a small ladder into a tiny enclosed space. This brought the victim to the other side of the locked metal grate. At this point, one of the



The original Upper Lower Slobovia sign, now in Bob Broilo’s private collection. The full text reads “Welcome to Upper Lower Slobovia. Population 3(4). Elevation: 15 feet A.F.L. [above floor level]. Morale: Low. Hope: None. Printed by the Secret Society of the Viscious Square Non-Development Committee”

bored students would flip on the light switch next to the Machine Shop mailboxes. This switch controlled a gigantic belt-driven contraption that belched out a cacophony of thumps, squeaks, and squeals, taking a good 15 seconds to get up to full speed. The sound was incredible. From the hallway it sounded like the entire industrial revolution was inside bucking for its comeback. To the victim behind the locked grate, it sounded like the world was ending.

This was the Workman Center that we all knew and loved. This was the Workman Center that had grown out of the combination of the indomitable spirit of Jack Workman and architectural hooliganism from the Physical Plant.

The hidden portions of the building were even more bizarre than the public areas. The crawlspaces above the Computer Center had peculiar hatches in the walls behind

which lay objects labeled CLASSIFIED. The elevator – if you didn't know its secret – would take you to the second floor of the tower, which consisted of a locked grate protecting a few offices, trapping the occupants there until someone called the elevator from the ground floor. We would learn

all about that on *Operation High Exploration* (<http://www.spril.com/StealthForceBeta/>.)

All Beta Operatives were insatiably curious about Workman Center. There were hallways that had seemingly been abandoned decades before, and every time we opened a closet, turned a valve, explored a hatch, or flipped a switch, something interesting might happen. With



William "Schlake" Colburn and Operative Sushi show off some of the landscape of the Workman Center tunnels. Note the bizarre twisted pipe in the center, the rusted-out pipe at the bottom, and the fiber optic cable immediately in front of Schlake's head.

so many interesting things above ground, we fantasized about what might lurk below. So one night we pushed aside the aluminum manhole cover, and descended.

the tunnels

Underneath Workman Center was a secret

world half as enticing as Narnia. We eventually charted three navigable entrances to the tunnel network:

1. *The manhole in the hallway. Before we graduated, Physical Plant welded a hinged bar over it secured with a padlock. Even then, you could simply slide the lid from under the bar and enter, leaving the bar and padlock in place.*
2. *A hatch in the ground just outside the building's north side. This entrance was cumbersome and required crawling through a long debris-strewn conduit with concrete sides, a mud floor, and a roof consisting of the underside of a sidewalk. Some of the myriad pipes running through it appeared to be insulated with asbestos coming loose. Before we graduated, Physical Plant backfilled that whole area with dirt.*
3. *The Petroleum Research and Recovery Center across the street had a greenhouse. Inside the greenhouse, there was a tiny stairway at the back ending at a 30-inch high closed door. If you opened the door, there was a crawl space about three feet tall, much of which was filled with a beastly hot 12-inch steam pipe covered with more crumbling insulation. If you were willing to straddle that pipe down the tunnel, in an arduous half-hour you could get into the*

tunnel network. Once was enough for that journey.

Rumor had it that anyone caught in the tunnels would be expelled. So I asked the Dean of Students, Dr. Frank Etscorn, who invented the nicotine patch. He said he didn't remember anybody getting in any special form of trouble after being found in the tunnels. So we explored.

Once you got into the tunnel network, you were in a claustrophile's dream come true. None of the tunnels were more than four feet high. In the open tunnels you hunched over dramatically, and in the tunnels with large pipes or miscellaneous debris, you had to shimmy

along. Moving about was especially awkward for tall operatives like Operatives Fingers (Jason Coder) and Sasquatch (me) – I'm 6'2". There was one exception, though. Dave Hershberger, despite being 6'1", could somehow scamper up and down the tunnels with phenomenal speed and agility. He so completely outclassed everyone else that we started calling him Operative Rodent. He explained that he probably developed that skilled fitness when he was a small child and would run around his boyhood home hunched over doing his impersonation of a Tyrannosaurus Rex.

There were some places where the tunnels were



The finest area of the Workman tunnels.

separated from the public areas of the building by a mere metal grate along the baseboard. While it would be a joyous way to encounter a friend, it was practically impossible to recognize passers-by from their shoes, so we thought it best to avoid drawing attention to ourselves.

We searched in vain for interesting tunnels under other buildings. Weir Hall had a promising entrance underneath a stairwell, but once you got inside you were in a grungy vermin-infested pit that went back a mere 10 feet.

Unfortunately, the finest building on Tech Campus was also the bane of the administration. For years they talked of tearing

down the great palace and replacing it with a more "modern" building. They finally got around to it a year after a wave of graduations forced Stealth Force Beta into retirement in 1992. If you go there now, you will find a mockingly bland three-story Workman Center as sterile as any turn-of-the-millennium generic structure. It has merely one second floor, an elevator without secret codes, and no netherworld of fabulous tunnels.

R.I.P. Jack Workman and Old Workman Center. You will both be missed, but never forgotten.



The #2 entrance to the tunnel network involved crawling through this.



construction

bureau of geology

Bureau of Geology Construction Ahead of Schedule

The new building that will house the Bureau of Geology and Mineral Resources is set to be completed in early 2015, ahead of the originally scheduled March deadline. Thanks to overwhelming support from the voters of New Mexico, Tech will begin construction on a new building for the Chemistry Department after the Bureau project is completed.

The Bureau building will be 85,000 square feet and three stories. The new Bureau will be able to consolidate all its lab spaces into the new building. The New Mexico Mineral Museum and the Bureau's bookstore will have accessible public spaces. The building was expected to be completed in March 2015, but construction is already at least one month ahead of schedule, according to Director of Special Projects, Miguel Hidalgo.

"It's going to be a stunning



Construction of the new Bureau of Geology began in November of 2013.

Photo by Tom Irion

building," Bureau Director Greer Price said. "It'll be the first time we'll all be in one building in more than 50 years. I think it'll be a landmark and a nice addition to the campus."

Price led a "hardhat tour" of the building for Tech employees, students, Regents and alumni during the 49ers Celebration in October. Visitors had an



Greer Price, director of the New Mexico Bureau of Geology and Mineral Resources and state geologist, points out the atrium of the new building, to be completed March 2015.

Photo by Eric Heinz

up-close-and-personal look at all three floors of the building. The atrium features massive windows and opens both into a courtyard and the Mineral Museum.

Currently, the Bureau has most of its offices in one building, with the museum and some laboratories in the Gold Building. Price said he expects to see an increase in visitors once the Bureau relocates.

"People have a hard time finding us and finding the museum," Price said. "The new building will be the first thing people see when they come in on Bullock Avenue."

The main lobby will feature public spaces – the Mineral Museum on the north side and the publication office on the south side. Administrative offices will be above the publication office. The museum will include a second-floor classroom for visiting school children.

The west half of the building will have three

floors, with labs on the first and second floor. The second and third floors will house offices, conference rooms, and classrooms, including a Smart Classroom.

Price said the new museum will allow for much larger exhibits. Currently, less than half of the museum's collection is on display. Price said the exhibit space will almost double.

As of November 3, the general contractor, Bradbury Stamm, is currently working on site utilities, interior floors and other finishing touches.

“The weather has been very cooperative,” Hidalgo said. “That’s one reason we’re doing so well. And there’s been no major snafus. Often, when you start to see the building come out of the ground, you start uncovering underground utilities and other subsurface problems, but everything has gone as planned.”

Hidalgo said he is working diligently with the contractor to stay ahead



of schedule on ordering casework, cabinetry and other equipment.

The project has also allowed Tech students to observe and learn about construction. Civil engineering students with professor Dr. Claudia Wilson have been visiting the site on Friday afternoons to get an on-the-ground look at project management.

The construction project is funded by \$18 million in general obligation bonds, approved by the voters of New Mexico in November 2012, and a \$6 million appropriation approved by the state Legislature and Governor Susana Martinez in March 2013.

Thanks to another general obligation bond approved by voters in the November 2014 general election, Tech has \$15 million for a new chemistry building. Once the Bureau of Geology is completely moved into its new home, Tech will demolish the current Bureau building, which abuts Workman Center to the south.

Hidalgo said the exact layout of the new chemistry building has not been finalized. He and other administrators are determining what offices, labs and classrooms will be in the new building.

The next construction project will be a complete renovation of Jones Hall, which is the current

home of the Chemistry Department.

By Thomas Guengerich



career services

annual etiquette dinner

<http://www.nmt.edu/career-services>

teaching tech graduates to make the right impression

Knowing the basics of proper etiquette is essential to making the right impression, whether you are having a casual lunch with coworkers, taking clients out to a business dinner, or attending a company charity gala.

To help young professionals prepare to meet this industry demand, each spring semester, the Tech Career Services office hosts the Etiquette Dinner and Fashion Show in the Fidel Ballroom. During the dinner, Tech students experience simulated professional interview and dining situations and are coached on proper utensil use, conversation techniques, and the dos and don'ts of business fashion.

The guest speaker for the Spring 2014 Etiquette Dinner and Fashion show was Marty Apodaca, the Career Services representative from the University of New Mexico. Apodaca has extensive experience in helping

college graduates transition into the job market, and was pleased to lend his expertise to Tech students.

During a jungle-themed four-course meal, Mr.



Apodaca taught students how to avoid “acting like an animal” at business functions by covering the basics of properly using a napkin and going over table layouts. Students also practiced American and Continental dining styles and appropriate dinner conversation with their peers.

“The Etiquette Dinner is important to students,” said Lillian Armijo, former Student Affairs Director and Etiquette Dinner

coordinator. “It gives them a chance to practice a real dining experience that they would encounter with future recruiters, supervisors, or investors.”

for free from the Career Services office.

Feedback from students who participated in Etiquette Dinner was overwhelmingly positive, with many students applauding Chartwell's catering service and Apodaca on his informative presentation. Paige Murray, a biology major at Tech, said “Etiquette dinner was a blast. I learned so many things I never knew. Mr. Apodaca was ready to answer everyone's questions and made the entire evening a friendly and fun event.”

In addition to the meal, the night featured a fashion show, highlighting suggested looks for four classic business situations: the office barbeque, business casual, business professional, and professional evening gala. Members from the Society of Women Engineers and the Men's Rugby Club modeled appropriate attire for each of these important professional events. All of the professional clothing modeled is available for students to check out

Upcoming Career Services events include “Graduate School Night,” featuring guest speaker Dr. Lorie Liebrock, Spring 2015 Career Fair, and the Spring 2015 Etiquette Dinner. Companies with available internships and employment opportunities are encouraged to contact Career Services at 575.835.5060 or at careerservices@admin.nmt.edu or stop in at Fidel Center, room 262.



49ers



The 2014 49ers Celebration was a rousing success on many levels. Tech planned special events to commemorate the 125th anniversary of the founding of the university in 1889, highlighting the school's history of engineering,



Van Romero and Frank Etscorn chat after presenting at **TECHTALKS**

Cake Decorating Contest
Darlene Vaiza



2014!



The winner of the 49ers Parade Grand Prize was the Magdalena Ridge Observatory float (below.)



Cake Decorating Contest
Cailyn Clarkson



Ed Fries, father of the Xbox and World of Warcraft, presenting at **TECHTALKS**

Every university has pranks and New Mexico Tech is no exception to the rule. Here are some memorable pranks by Techies. We know that this does not represent all the pranks and we would love to hear your prank stories, send us an email (alumni@nmt.edu) or drop us a snail mail Gold Pan/801 Leroy Place/ Socorro, NM 87801.

Bob Eveleth is a New Mexico Tech graduate and a retired senior geologist at the New Mexico Bureau of Geology and Mineral Resources. Bob recalls three pranks in his article “M Mountain: A History of A Socorro Landmark.”

The School of Mines’ students did however wreak havoc with other university letters. Roland Dickey wrote that in 1947 a group of Mines students repainted the



Before

“U” of the University of New Mexico at Albuquerque into an “M”, and on another occasion the “T” at New Mexico State Teacher’s College (now known as WNMU) at Silver City was changed into an “M.”

In 1948 the Miners did it again: According to the 1948 Porphyry, “During State Fair Week and for the second time within a year, the people of Albuquerque awoke one morning to view the enigma of an “M” occupying the position where the University “U” normally graces one of the foothills east of the city. ... Old timers ... were heard to mumble petulantly something about ‘inmates breaking out of that Socorro asylum again.’” When the School of Mines’ college rivals



After



Desert Maiden, a sculpture by Eugenie F. Shonnard, is popularly called Santa Rita, patron saint of the impossible. Legends say when a virgin graduates from New Mexico Tech, the bird she is holding will fly off.

discovered they could not molest Socorro Peak’s “M” they found other ways to extract their retaliatory pound of flesh. One result was Socorro’s students waking one morning to find their precious Desert Maiden sporting a new wardrobe composed of black tar and feathers (Gold Pan, 11/30/1955, p 1).

During 49ers in the 1960’s we were told the story of

the “Pile of Little Rocks.” At one point there was a large rock on the quad; by all accounts it was a nice big rock, until students spilled yellow and green paint on the rock, then it looked a little motley. One Monday morning instead of the big rock, there was a big pile of little rocks. Legend has it that several students hotwired some New Mexico Tech ground equipment, moved the large rock to a safe location and blew it up with a few sticks of dynamite, then returned a nice size pile of fragments complete with yellow and green paint to the rocks’ previous location on the quad.

In a 1991 article in PayDirt, student reporter Tom Jones reported on the CSM banners on the Macey Center.

Banners bearing the initials of Colorado Schools of Mines were placed over the solar panels sometime early Friday morning of 49ers. The banners were visible during most of the day’s 49ers activities. They are apparently in retaliation from the Spring Fling

of 1990, when Tech students flanked the “M” on CSM’s mountain near Golden with an “N” and a “T.”



The Vice-President of CSM’s student government stated that while he was not absolutely certain who made and placed the banners, he had a good idea about who it was.”

Karl Tonander, an employee of Macey Center, stated that the people who somehow got to the roof “knew exactly what they were doing.” It is possible that the persons with the banners either scaled the outside of the structure, or hid inside until after the building closed. Concerning the project, he stated “It was designed; they had curtain hooks [to hold the banners to the building] and

rolled [the banners] down the edge. They had it measured. [The banners] had duct tape reinforcement and wind holes....” He added that the “N” and “M” later painted on the “C” banner with fluorescent paint was the action of fellow Macey employee Dave Thurston, although only after a padlock placed by the vandals on the inside hatch to the roof was removed.

Tech’s Dean of Students, Frank Etscorn, called the banners “a neat stunt.... It looks like we’ve got a little rivalry going.” Tech Vice-President for Academic Affairs Carl Popp stated that he had taken some photos for his personal scrapbook. And Tech President Laurence Lattman stated that, since Macey Center was not damaged, the banners were “a clever college prank.”

The CSM banners with added NM remained up for most of the day until strong winds tore them apart.

2007: In April of 2007 a commode painted bright green and a pirate flag adorned the clock tower over Joseph Skeen Library at New Mexico Tech in Socorro until crews took it down Monday. Crews noticed the commode Sunday morning and taped off the area so nobody would get hit if the commode fell.

A prankster had apparently placed the commode on the top of the clock tower, but crews could not figure out how – and who. A crane had to be brought from Albuquerque to Socorro to remove the commode from the top of the tower. The identity of the prankster and his or her methods will remain a secret, because to release that information would eliminate the mystique of this prank at New Mexico Tech.



2011: In the spring of 2011 people saw green lights under the “M” on M Mountain. The ambitious pranksters were inside the secure explosive range and climbed some very rough terrain. There are primarily two rumors associated with the flashing lights. One is it happened on April 20 and was the work of pranksters trying to light up a big marijuana leaf on the top of the “M.” The second rumor is the group was trying to create a large smiley face on the mountain and due to a technical failure only manage to create the smile.

Small or large, no matter what size the prank, they always seem to leave an imprint on those around them.

By Heidi Brown

calendar of events

alumni receptions

2015 Events through May.
All dates subject to change.
Go to www.nmt.edu/advancement for details.

JANUARY

- 13 Dallas TX
- 14 Ft. Worth, TX
- 20 Las Cruces, NM
- 21 El Paso, TX
- 27 Santa Fe, NM

FEBRUARY

- 9 Seattle, WA
- 10 Portland, OR
- 17 SME: Denver, CO

MARCH

- 10 Hobbs, NM
- 11 Midland, TX
- 12 Lubbock, TX
- 17 Columbus OH
- 18 Cincinnati, OH
- 19 Louisville, KY
- 24 Henderson, NV
- 25 Las Vegas, NV

APRIL

- 13 Philadelphia, PA
- 14 Trenton, NJ
- 15 New York, NY
- 16 Hartford, CT
- 18 Concord, MA
- 20 Boston, MA
- 21 Albany, NY
- 22 Syracuse, NY
- 23 Rochester, N

MAY

- 02 Albuquerque, NM
- 08 Socorro, NM

- 50th Reunion,
Class of '65
- 9 NMT Graduation
- 11 Chicago, IL
- 12 Milwaukee, WI
- 13 Kansas City, MO
- 13 St. Louis, MO

local events

january through june

1ST SATURDAY OF EACH MONTH:



- Very Large Array Karl G. Jansky Extend Tour
- First Saturday Star Party
- Hammel Museum open to the public 9am to Noon

JANUARY:

- 12 Tech Spring Classes Begin
- 14 Performing Arts Series presents Jekyll & Hyde: The Musical
- 19 Presidential Chamber Music Series III



FEBRUARY

- 13 Performing Arts Series presents Hotel California: A Salute to the Eagles at Macey Center
- 21 N.M. Science Olympiad



MARCH

- 5 Performing Arts Series presents Lunasa
- 14-22 Tech Spring Break
- 21 Community Youth Fishing Derby



- 23 Presidential Chamber Music Series IV
- 27 Performing Arts Series presents Nelson Illusions
- 27-28 N.M. Science and Engineering Fair
- 28 Socorro County Arts Spring Open House

APRIL

- 4 Trinity Site Open to the Public
- City of Socorro Easter Egg Hunt



- TBD Tech Spring Fling
- 17 Performing Arts Series presents Scrap Arts Music
- 29 Performing Arts Series presents Santa Fe Opera Apprentices on Tour

MAY

- 2 Cinco De Mayo Celebration



- 9 Tech Commencement



alumni spotlight dr glen cook

tech grad is chief scientist
at museum of glass



Dr. Glen Cook

The Corning Museum of Glass has appointed Dr. Glen Cook as its new chief scientist. Beginning in January 2015, Dr. Cook will be responsible for researching and sharing scientific and technical topics in glass. This work will inform exhibitions, programs and publications, and will also serve as a technical resource for the broader museum community, as well as artists working in glass today.

Cook earned a bachelor's in materials engineering from New Mexico Tech in 1987.

He earned his Ph.D. and master's in metallurgical

engineering from the University of Wisconsin-Madison.

“The Corning Museum of Glass has been committed to scientific inquiry since its inception and is a pioneer in the application of scientific techniques to examine glass artifacts,” said Dr. Karol Wight, executive director. “With Dr. Cook we look forward to continuing those paths of exploration and also exploring new ideas in glass, such as new formulas/compositions and new ways of working with the material.”

Cook comes to the museum after 16 years at Corning Incorporated as a senior research associate, conducting research in inorganic materials composition and processing. In 2013, Dr. Cook's outstanding record was recognized with Corning's prestigious Stookey Award for cutting-edge exploratory and applied research, as well as in recognition of being the named inventor on more than two dozen

patent applications.

For the last two years, Cook has collaborated closely with Corning Museum glassmakers in glass forming process research. Cook is also the technical advisor to the new Specialty Glass Artist-in-Residence program that is jointly managed by Corning Incorporated and The Corning Museum of Glass. The first resident artist is Albert Paley, who began the residency in August 2014 and is working with Corning Code 7056, a borosilicate glass that was engineered to bond tightly to the metal alloy Kovar.

“Scientists approach the nature of glass with the same fundamental joy as artists. Whether you

are manipulating glass for artistic expression or studying its atoms and molecules, the material is just as compelling and fascinating,” Cook said. “I'm thrilled to have the opportunity to integrate the artistic and scientific explorations of glass ways that advance aesthetic expression, and I look forward to sharing all that I learn to help provide a richer understanding of the material to the world and to impact the work of the glassmaking community today.”

The Innovations Center at The Corning Museum of Glass is a hands-on gallery that introduces visitors to the science and technology of glass in all its applications from the industrial to



Dr. Glen Cook speaking with a visitor at the Corning Museum of Glass in Corning, N.Y.

the artistic. Designed by Ralph Appelbaum and Associates, it explores concepts of optics, vessels and windows through interactives, object displays, oral histories and live demonstrations. At the center of the gallery is the famous 200-inch telescope blank cast in 1934 for the Hale Reflecting Telescope at the Palomar Observatory.

The Museum's glass collection includes numerous specimens of naturally occurring glass objects such as tektites and glass sea sponges, and scientific glass objects such as early telescope disks and 19th-century optical eye models. The Rakow Research Library of The Corning Museum of Glass holds in its collection early

manuscripts, books and materials related to the scientific properties of glass and glassmaking, including a 1704 edition of *Opticks* by Sir Isaac Newton.

From 1960 to 2010, the Scientific Research department of The Corning Museum of Glass pioneered the application of numerous scientific techniques to the

examination of historical glass artifacts and to the study of the history of glassmaking. The findings of this research, done in collaboration with archaeologists and scientists from around the world, have been shared in more than 190 publications on the archaeology, chemistry, and conservation of glass.



Dr. Glen Cook at work at the Corning Glass Museum. Cook recently took over as the chief scientist at the museum.

sports @ tech

the president's golf tournament

<http://www.nmt.edu/presidents-club/golf-tournament>

2014 20th annual president's golf tournament

The 20th Annual President's Golf Tournament was a two day event, September 18 and 19, 2014. The three flights had a total of 70 sponsored teams. Freeport-McMoRan and Chartwells were Platinum Sponsors at the \$10,000 level. We had 11 Silver Sponsors and 13 Copper Sponsors. With the generous



support of our major sponsors, team sponsors, hole sponsors, co-hole sponsors, cash donors and goodie bag donations; we



were able to raise more than \$190,000 at the 20th annual President's Golf Tournament.

The tournament was supported through the generous volunteer work of the New Mexico Tech Golf Club, Share the Spirit Club and Alpha Sigma Kappa. Volunteers were cart drivers, course helpers, worked the appetizer



stations and assisted with registration at the tournament. Thank you to everyone who made this tournament a success for the 20th year in a row.

The funds from the President's Golf Tournament go to support the President's Scholarship Fund which enables students to complete their degrees. The majority of the President's Scholarship Fund supports fifth-year students who no longer qualify for undergraduate

financial aid.

The 21th Annual President's Golf Tournament will be held September 17 and 18, 2015.



pygmies finish fall season
in second place

The New Mexico Tech Pygmy Rugby Club ended their fall season with a 22-13 loss to the University of New Mexico in Albuquerque, securing a second place position for the fall season. If moral victories truly exist this would be one of the last times Tech ventured onto Johnson Field on the same

weekend one year ago they sustained a 90-7 whipping.

While it can't be said the Pygmies should have won against the Rio Grande Rugby Union's only unbeaten collegiate team, they very well could have given the determination with which they played. With scholastic priorities preventing the team from congregating for full practices for over three weeks it appeared before



University of New Mexico wing Shane Williams is tackled by Jordan Cassel of New Mexico Tech as Pygmy backs captain John Mark Stiles moves in to help. Behind Stiles are freshman players Jake Wilkins (left) and Chris Schmittle.



kickoff that the sky very well might fall on the Techies. Senior utility back Aaron Long was named Tech's Man of the Match in his last game for New Mexico Tech before attaining

half of the Rio Grande Rugby Union collegiate competition with wins over UTEP and NMSU against the UNM loss. The four teams will complete the double round robin



Tech sophomore hooker Carl Peart executes a "pick and go" against the University of New Mexico Saturday. From left are Tech players Jordan Cassel, forwards captain Darien

a degree in mechanical engineering in December. Aaron and identical twin Ben, both accomplished gymnasts and officials in that arena, are likely to pass with honors. Tech finishes the first

in the spring semester before gathering for the championships in Socorro in April.

*By Dave Wheelock
Tech Rugby Director*

traditions @ tech

st. patrick's day

st. pat's new mexico tech style

As many of you know St. Patrick is the patron saint of engineering. Legend has it that long ago there was a decree from the Sons of Erin that all Schools of Mines set aside a day to honor the patron saint of mining, St. Patrick.

Thus March 17 was declared Engineers' Day or St. Pat's at New Mexico School of Mines. While the legend acknowledges that the St. Pat's ceremony, should be held at all engineering schools across the nation; according to our sources the legend also decreed that the New Mexico School of Mines ceremony should be the most extravagant of them all.

Legend has it that the Blarney Stone, that was to be kissed, was nothing less than a large piece of gem-green smithsonite from the nearby Kelly mine, which had belonged to former School of Mines President C.T. Brown (also the namesake of Brown Hall). There are several documented insistences of specimen #793 being the



Certificate of knighthood for Sir James Houston, 1957

Blarney Stone, including several places in The New Mexico Tech year book *The Porphyry*. However, in January of 1999 an article titled *ST. PAT'S AND THE LEGEND OF THE C. T. BROWN SMITHSONITE, Why Us Curators Speak Fluent Blarney*, by Robert W.

Eveleth, Senior Mining Engineer, Associate Curator, at the New Mexico Bureau of Geology and Virgil W. Lueth, Mineralogist/Economic Geologist/Curator, New Mexico Bureau of Geology, chronicles the existence of specimen #793.

This article proves that unfortunately for legends, lore, documentation and speculation, specimen #793 smithsonite was not part of the St. Pat's ceremony. In fact, Eveleth and Lueth state that that story is just a bunch of "blarney."

Over the years St. Pat's ceremony has disappeared at New Mexico Tech and the painting of the "M" is now part of 49ers. As with many things in life, this traditions transition from spring and St. Pat's to fall and 49ers is bittersweet for many alumni.

With the decree in mind, let the festivities begin.

By Heidi Brown

and now a word from an alumni from march of 1967

Years ago at New Mexico Tech, St. Patrick's Day was the biggest holiday of the year, the celebration of the patron saint of engineers. A lot of cultures in this country don't really have coming-of-age or initiation rites like a lot of tribal cultures do, but St. Pattie's had most of the standard ingredients: costumes, baptisms,





Reigning over the St. Pat's initiation in 1967 are James Elrod, Fred Frank, Thomas Gentry, Douglas Torhan and Lawrence Fields

rituals, ordeals. A lot of the upperclassmen wouldn't even give the time of day to a freshman that hadn't gone through St. Pat's. After I went through in March of 1967, suddenly my status went way up: some upperclassmen who had completely ignored me would occasionally favor me with small scraps of ridicule and abuse.

The first event of the holiday was the posting



Russell Erbes wins the pie eating contest.

of the Sophomore Higher Intelligence Team (S-list)--a selection of the 20 most obnoxious freshman, singled out for extra duty. I made #9, probably because I spent too much time bragging about my job in the air-conditioned computer center, and the sophomores who had jobs digging ditches tended to resent that.

The organizational meeting was held on the Tuesday before St. Pat's weekend. Freshmen were formed into squads of ten; the 20 S-list members were put in two special squads. The sophomores passed out the scavenger hunt list and the rules for accumulating points. Naturally our squad was

very competitive, being made up exclusively of wiseacres.

Some of the items on the scavenger hunt list were easier than they looked. Asking a female professor to autograph a jockstrap or the president of the college to sign a bra sounds intimidating, but neither Merry Lomanitz nor Stirling Colgate were likely to refuse any such request.

One of the items on the scavenger hunt--a hubcap from a Socorro police car--caused a bit of friction with the town. I heard the story of an eyewitness who was in town that night about two blocks from the police station. About three minutes after the scavenger hunt list was handed out, a '56 Chevy pulled up right outside the police station and six of the seven people in it got out and grabbed hubcaps and piled back in and took off. For about the next five minutes people were converging from every direction. By the time the people inside noticed what was going on, there weren't many hubcaps left.

It was at least an hour later when our team made the attempt on the police station--on foot. It didn't occur to any of us that we might not be the first ones there, or that by then the police might have known what was going on, or that we might need a car to get away in a hurry. I hid behind a tree while my confederates went in to try to get another scavenger hunt item: signatures of all the police in town on a petition stating "I Like Tech." Fortunately, I was caught before I got my screwdriver out; I hadn't started on the hubcap yet because I was suspicious about the patrol car that had been shadowing us all the way from campus.

About three hours later, here came Red Beret with the two trademarks that made him a figure of universal ridicule: his beret and his ten-speed bike. He leaned his bike against a light pole right across the street from the police station, pulled out his screwdriver and started to pry on one of the remaining hubcaps, and was quite surprised when

three spotlights nailed him where he squatted. The police put him in jail and negotiated a deal with Tech: they would let him out if the school would agree to keep all the students out of town until Monday morning.

There was not much official activity planned for the upperclassmen, which left them lots of time to paint shamrocks on various things (like the water tank in Belen and the Lobo statue at UNM) and repaint some of the center stripes in the town streets using green paint.

The most important activity was climbing Socorro Peak and whitewashing the M, which required lime and a broom. In the 50's and earlier, every student had to carry a 50-pound sack of lime and a broom to the top, except for some students who carried water instead of lime. This is why the mountain is very white just above the standard jumping-off place for the M climb: it's a pretty steep climb, so many people just dumped their lime sacks.

In my day, they brought the lime and water up the back of the mountain in a Jeep, but some people still

carried lime out of macho or respect for tradition, or perhaps to make an assault on the record for the fastest climb with a lime sack. It was still necessary, however, for every freshman to be equipped with a stolen broom. They wouldn't let you show up with a West Hall janitor's broom; you had to steal it in town. Like many of my classmates, I had hardly ever been in town, so a bunch of us asked an older student named Byron to drive us through town so we could steal our brooms. It didn't occur to me that this broom business happened every year about this time, or that the townspeople might have been expecting it.

Byron took us to a likely neighborhood, stopped and pointed at a house. There on the porch was a broom, with a large dog sleeping on it. The wall around the front yard wasn't that tall, maybe a couple of feet. But I almost broke a leg going over it the second time, with the dog trying hard to eat me. I had an easy time of it, though, compared



to my friend Pat. We were driving along on South California and he spotted a broom leaning against the screen door of a house there. He ran over and grabbed the broom, but it wouldn't come; it was nailed to the door. He pulled harder, and the hinges on the door gave way. He ran all the way back across the front yard holding tightly to the broom, dragging the disintegrating screen door with it. We had to jump out and help him bang it on the fence to get most of the door off so we could get the broom in the car.

Thursday at six in the evening was the start of the ordeal. First was the



Richard Woodcock slips as he crosses the pit on a greased pole

traditional costume check: every item of clothing had to be inside out. There was always one guy that had put on his underwear the right way and had to correct it on the spot.

Most of the squads were put to work digging the pit for the tug-of-war on Saturday, but the two S-list squads had to clean out the “fish ponds.” Driscoll Pond was about eight feet by four, octagonal in shape, and about three feet deep, located just east of the old Driscoll Hall. No fish would live in the kinds of things that the upperclassmen donated to the pond in anticipation of St. Pat’s---drilling mud,

gelatin, broken bottles, and whatever else might be put in there by folks stumbling back from the Capitol Bar after closing time, when inhibitions are just a theory. The lower ten of the S-list got to clean out another fish pond just north of West Hall, which got less attention than Driscoll Pond but was still not a pretty sight.

Our squad, the Cherries, made up of the S-list top ten, marched over to Driscoll Hall to attack the pond, singing our squad song. We had a great song, composed by the famous Fast Eddie Miller, with a chorus to the tune of “Thunder Road.” Since

today’s students are so innocent, I have deleted all the bad language. Not much left, is there?

*We’re the (deleted) Cherries
And we don’t give a (deleted)
We’d rather clean out Driscoll
Pond
Than dig the (deleted) pit*

*We are (deleted) (deleted)
And we know what we want
For when St. Pat’s is done and gone
We’ll go and get some (deleted)
Cherries, Cherries,
We’re that (deleted) batch
All we want from life
Is just a little piece of (deleted)
Cherries, Cherries,
We just want some (deleted)
Cultured women you can have,
We’ll take them (deleted) (deleted)*

When we started singing, there were about 50 women watching, hanging out of every window in Driscoll. By the time we finished, it was down to three. Back then we had a very simple definition of correct behavior—“grossout chic.”

The S-list squads were supposed to clean out the fish ponds with toothbrushes, but the first problem was just to empty them out. The large cylindrical ashcans from West Hall were perfect for bailing. I was so eager that I jumped into the pond, slipped on the slime layer on the bottom, and laid open my leg for about



Members of the Cherries Squad meet by the swimming pool to receive their assignments.



Charles Nielson and Robert Walker compete in the drilling contest, scattering bits of boulder

ten inches on a broken bottle. It was pretty cold in there, so my leg was numb and I didn't realize I'd been cut until I got out and someone noticed the blood running down my leg. Not exactly the most antiseptic conditions, so even though it was just a shallow laceration, not even deep enough to need stitches, I got a ride to the emergency room at Socorro General. The nurse cleaned and dressed the wound. Just after she finished, the doctor on call staggered in to inspect the work. This doctor was always at least three thirds drunk; he came in and said everything looked fine and staggered back out. I still have the scar.

Meanwhile the Thursday schedule continued. The majority of the freshmen dug the pit, about 25 by 40 by six feet deep. The pit site was south of the pool and had been used in previous years, so certain items had been buried there to make the excavation more challenging: several tires strung on a telephone pole, a mattress and box spring, and a whole auto body (I think it was a '49 Studebaker). The S-list squads finished emptying the ponds and started the toothbrush detail work.

Uncooperative freshmen were sent to Kangaroo Court, that landmark of impartial justice. Sick? Have a nice mustard

plaster, made with real French's mustard. Tired? Maybe not after you were tied to the chain-link fence of the tennis court while wet sponges were thrown at you. Not singing loud enough? Perhaps if we all held hands with the old hand-crank telephone generator, it would bring back that missing energy. There was something for everybody at Kangaroo Court.

By about four in the morning, the pit was done, but the ordeal was only half over. First we had to go down to the train station to pick up a couple of telephone poles that had been liberally coated with that gray-green stuff that you may find on the boots of people who work in stockyards. We walked down Mines Road and Manzanares, then walked the poles all the way back on our shoulders, loudly singing our squad songs all the way.

We got about half an hour of rest while the sun came up, then it was off to M Mountain for the climbing and whitewashing. If you've never been up



there, I recommend it. The view is really impressive, commanding the whole valley. I have the utmost respect for those that first surveyed and constructed that letter; it's about 100 feet tall, and there's a dandy talus slope just below it. Four steps up, five back.

Friday night was the beer bust. Few freshmen made it that far. In my sophomore year, the beer bust was raided by the state police, even though





it was off campus in Escondido. No arrests were made, because all the underage people ran out the back door and went south, while all the people who were legal went north, screaming abuse at the authorities and leading them on a wild goose chase through the snow.

Saturday was the crossing of the pit and the tug-of-

war. A greased telephone pole was laid across the pit and each freshman had to cross it and then kiss the Blarney Stone. Some of them would be anointed with "holy water" that made Driscoll Pond seem wholesome by comparison. St. Pat and his court were there, chosen from the junior class mainly for their great alcohol capacity.

After all the freshmen had crossed, the tug-of-war got underway, over the water-filled pit (and that water can be cold in March). For some unknown reason, the freshman side not only sloped downhill towards the pit, but it was also a morass of liquid mud. Things were nice and dry and firm



on the sophomore side, especially around the rows of trenches where the sophomores could brace their feet. The years I was there, the sophomore end of the rope was also tied to something solid like a six-by-six that would be fairly hard to drag into the pit, just in case. Lest you think this unfair, keep in mind that there are always more freshmen than sophomores. Experienced spectators always ran away just before the climax of the tug-of-war, since it was always followed by the freshman throwing everybody they could catch into the pit.

St. Pat's is no longer celebrated at Tech. It was always basically just an excuse for light hazing and heavy drinking, and

from what I hear it got to be a bit too nasty in its later days. When I went through, it was not vicious; humbling, yes, and certainly tiring, but nobody's spirit was broken. Those that went through it got something that seems in short supply nowadays: a sense of belonging, a rite of passage.

By John Shipman



research @ tech

environmental engineering • dr. frank huang

<http://infobost.nmt.edu/~envel>

tech team extracting power from dirty water

Dr. Frank Huang, professor of environmental engineering, is leading a team of about 20 professors, researchers, graduate students and undergrads on a novel approach to energy generation. They have



finished the first year of a five-year National Science Foundation grant to develop a process of extracting electricity from brackish produced water produced by the oil-and-gas industry.

Using a process called pressure retarded osmosis, or PRO, the project aims to develop a cost-effective manner of generating power from

water containing high concentrations of total dissolved solids, or TDS.

The project is under the aegis of the New Mexico Experimental Program to Stimulate Competitive Research, or EPSCoR.

In simple terms, high-TDS produced water and low-TDS produced water are fed into separate pipes, via filters which remove humus and other particles which can block the membranes. The water is then fed into the membrane system, which consists of hollow fiber membranes. The water in the low-TDS produced water is drawn across the membrane to the high-TDS produced water. The increase in volume creates a pressure which forces the water through the turbine and generates electricity.

The team at New Mexico Tech is designing and fabricating the fiber membranes with off-the-shelf polymers.

“Rarely will you find a university that is able to make membranes,”

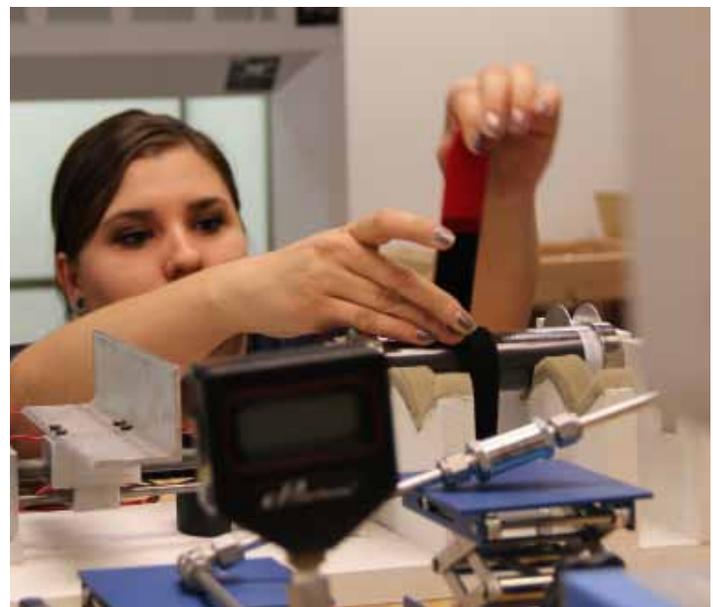


Huang said. “We can develop a process to make membranes that fit our need. The students are excited to put it all together.”

Fabricating the membranes is only half the job.

Students will use a portable scanning electron

microscope to look at cross-sections of the membranes, a viscometer to see how viscous the polymer dope solution is, as well as determining how hydrophilic or hydrophobic the membranes are using contact angle measurements. They will also test the



tensile strength of the membranes to gauge the bursting pressures of the membranes.

Vivian Hernandez, an undergrad in chemical engineering, is learning to make the membranes and assemble them using a centrifugal potting machine. Hundreds – perhaps thousands – of the fiber membranes are assembled in a cylindrical unit, which will serve as the test device.



“It’s been great to be hands-on,” she said. “I’ve learned so much on this project.”

Kelsy Waggaman, an undergrad in environmental engineering, said the project is exciting because of the practical potential.



“The membrane is the key and it’s a barrier to increasing the efficiency of the technology,” she said. “We need to make a membrane that can handle the environmental factors. We want to make sure the oil and gas operators

are excited to use osmotic power technology and that it’s economically beneficial to corporations. There’s so much happening on many levels; this is very exciting research.”

The petroleum industry generates about 28 billion gallons of produced water annually in the state, with 22 billion gallons coming from the oil-rich Permian Basin in southeast New Mexico. The objective of the osmotic power team is to investigate issues that prevent produced water-based osmotic pressure systems from becoming commercially viable

sources of power.

The team includes scientists from New Mexico Tech, Eastern New Mexico University, New Mexico State University, Sandia National Laboratory, Los Alamos National Laboratories, Apache Corp. and NASUS Water Technology.

For more information about the project, visit www.nmt.edu/OPD or contact Kelsy Waggaman, Osmotic Power Research Assistant at kwaggama@nmt.edu.

spotlight on faculty

dr. frank etscorn



“Butting Out: Son of a tobacco merchant, Frank Etscorn helps wean legions from the leaf with his nicotine patch,” a feature story in *People Magazine* in October 1992.

Photo by Steve Northrup

frank etscorn: pioneer of science

Throughout the history of New Mexico Tech, many professors stand out as legendary figures. Among the largest figures – both literally

and figuratively – is Dr. Frank Etscorn, the inventor of the nicotine patch.

Standing at 6’6”, Etscorn looms large, but his gracious charm, jovial nature and down-home gregariousness make him

less imposing and more approachable.

Etscorn returned to Socorro this year to give a TECHTalk during the 49ers Celebration. He spoke at length about the discovery of the nicotine

patch and his experiences at Tech. He interspersed his talk of science with humorous anecdotes, and answered questions from the crowd.

“It was great to get back,” Etscorn said. “I sneak



The popular inventor Frank Etscorn during his TECHTALK presentation.

down there every now and again to see how much it has changed and how beautiful it is. Visiting campus brings back good memories.”

Etscorn and his wife, Sheri, have two children and three grandchildren. Their son lives in San Antonio, N.M., giving them even more reason to get down to Socorro. Their daughter lives in Albuquerque.

Etscorn’s journey in academia did not get off to a smooth start. He flunked out of the business program at Western Kentucky

University twice, then flunked out of a school in Florida as well. While he and Sheri were living in Nashville, Frank took a night course in psychology and found his calling.

“The instructor was a neurologist from Vanderbilt and he taught an intro psychology class that was physiologically and hard science based,” he said. “I decided, ‘This is what I want to do when I grow up’. I started reading psychology as fast as I could.”

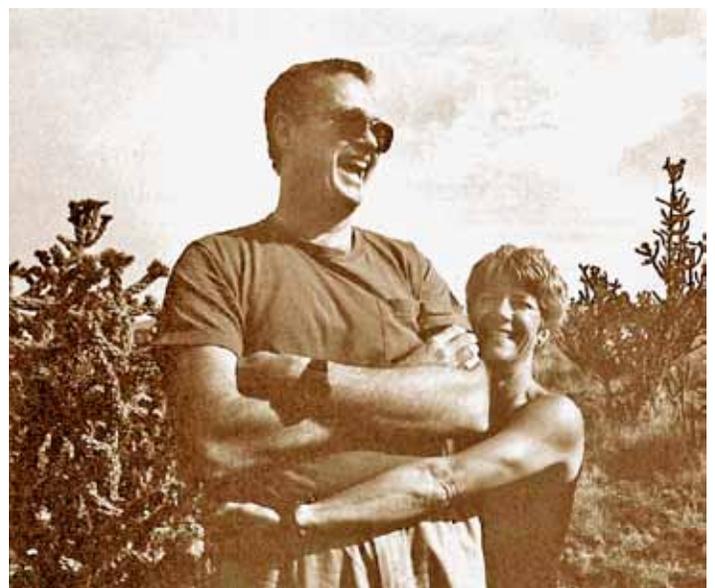
Eventually, Etscorn received his bachelor’s in psychology from Western

Kentucky University in 1971 and his master’s in experimental psychology from Western Kentucky in 1973 (later receiving a distinguished alumnus award and honorary doctorate). He earned his doctorate in experimental psychology from George Peabody College in Nashville, TN. He joined the faculty at New Mexico Tech in 1977 in the Psychology Department, becoming a full professor and dean of students in 1985. He received the university’s Distinguished Teaching Award in 1990. Born in Kentucky, Etscorn grew up around tobacco – in the family and on the



Psychology professor and dean of students Frank Etscorn, circa 1985

farms. His father, Frank Jr., was a businessman, and his mother, Mary was a social worker. They also were part owners of a tobacco warehouse.



Frank and his wife Sheri in 1992.



Frank with some of his students in 1992 beside Tech's Centennial Fountain..

Etscorn said he worked in the tobacco warehouse but could never figure out why people enjoyed smoking. Early “experiments” made him sick. Etscorn’s invention had a personal element. His wife, Sheri, was a smoker who struggled with quitting; his brother was also a heavy smoker. Sheri would even stop a workout video to smoke.

His quest had an accidental breakthrough. Etscorn’s entire research focus

was flavor aversion. He researched how novel, harmless flavors become associated with nausea and the flavor is thereafter avoided. He was fooling around with liquid nicotine (a potent stimulant of the vomiting center) when he accidentally spilled some on his arm. Within a few minutes, he was dizzy, nauseated and unable to stand.

That incident led to more self-experimentation – as well as working with more rats in the laboratory.

In one case, he was about to self-administer a three microliter dose of nicotine along with the transporting solvent DMSO when undergraduate student Linda Hagan stopped him and recommended a much lower dose. In his talk, Etscorn said that advice probably prevented him from giving himself a massive overdose.

“One microliter made me sick as a dog,” he said. “We were trying to mimic the quick onset of nicotine from a smoked cigarette. She probably saved my life.”

Ever the fearless scientist, Etscorn continued to experiment on himself – and his brother. John Etscorn came to visit – on the promise that Frank would take him to the Owl Bar – and after putting a circular BandAid dosed with nicotine on his neck, John said it felt like he had just smoked a cigarette.

“That’s when I said, ‘Bazinga, this is what we want’,” said Etscorn, referencing one of his favorite TV shows, *The Big Bang Theory*.

Before long, he was publishing his results. By the early 1980s, he was ready to file a patent on his invention. During 49ers, he told stories about the patent process. He said he knew absolutely nothing about the patent process early on. Yet before the process was over there were days-long depositions about his research, the science behind the patch and his experiments.

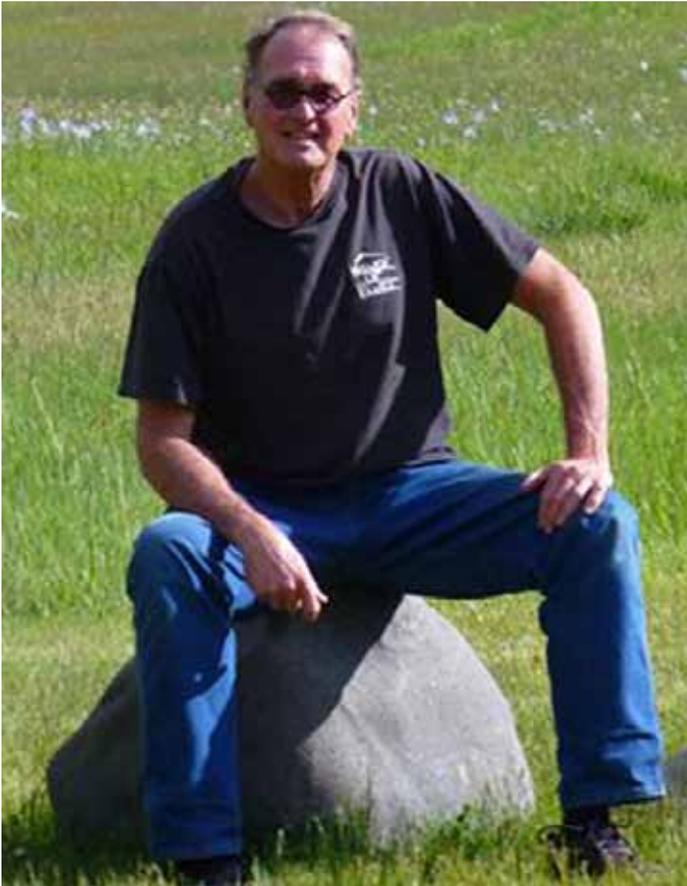
Eventually, Etscorn and New Mexico Tech defeated a challenge on the patent from other scientists,

including a group at the University of California-Los Angeles. Etscorn worked closely with patent attorney, Deborah Peacock, who later was appointed to the Board of Regents at Tech, a position she still holds. The U.S. patent was awarded in 1986.



Attorney and recently appointed New Mexico Tech regent Deborah Peacock was instrumental in securing the patent for Dr. Etscorn and New Mexico Tech.

Etscorn said in his talk that three inventions were the largest selling products to come out of a university: Crest toothpaste, which was patented at Indiana University; Gatorade, patented at the University of Florida; and the nicotine patch at that little ol’ school in the desert.



Frank relaxes at his beautiful wildlife refuge in Wyoming.

Originally known as the Habitrol patch, the patented invention was marketed by Ciba-Geigy Pharmaceuticals (now Novartis). Tech and Etscorn shared the patent and the profits, earning millions for each.

The patch was hailed as one of the best products of 1992 by Time Magazine and Fortune Magazine. Etscorn's research was

featured on many TV shows, including Good Morning America, CBS News, The Today Show, ABC News, Prime Time and The Discovery

Channel and in articles in The New York Times, Wall Street Journal, Time, Newsweek, U.S. News and World Report and The Chronicle of Higher Education (The Nicotine Patch Wars). The patch went over-the-counter at Kroger's, Walmart and Walgreens.

"We've been able to do a lot of things that we never thought we would," he said. "I didn't get into professor work looking for money – publish papers, research, teaching. But this whole patch thing – there's no way to describe it. It's been like hitting the jackpot."

While still a professor, Etscorn served as the faculty advisor to the budding Astronomy Club. After retiring from Tech in 1993, he donated seed money to create the facility

now known as the Etscorn Campus Observatory.

He and Sheri enjoy traveling a lot. After 49ers, they embarked on a 2,500-mile road trip that included a stop back in Kentucky. He said they enjoy driving up the coast of California, Oregon and Washington and going on cruises "with all the other geezers."

They spend at least three months a year at their ranch in Wyoming, which they've transformed from an old ranch into a wildlife refuge and beautiful slice of America.

"I take pride in that ranch," he said. "Wyoming is beautiful – fresh air, clean water. It's kinda cool there. But I want to be here [in New Mexico] full-time. They don't have what we New Mexicans call chile in Wyoming."



The Etscorn Campus Observatory, made possible by a donation by Frank Etscorn

new mexico tech golf course

<http://www.nmt.edu/nmt-golf-course>



designed by James E. Voss and opened in 1953. The course rating is 71.2 with a slope rating of 126.

New Mexico Tech golf course is a daily fee course with an 'Open To Public' guest policy. The tree-lined fairways



The New Mexico Tech Golf Course was named by *GOLF DIGEST* magazine as "one of the 10 best public courses in New Mexico, and one of America's 500 best places you can play."

The golf course is an uncrowned 18-hole, championship layout of rolling hills, dramatic elevation changes, and dynamic views of the Rio Grande valley. From the longest tees it features 6,678 yards of golf for a par of 72. The course was



serve as the site for the Socorro Open and Elfego Baca Shoot, on the first week in June and The



Annual NMT Presidential Golf Tournament in September, two of the largest professional and amateur golf tournaments in the Southwest.

The golf course also provides the following facilities:



PRO SHOP

575.835.5335

- Buy or rent clubs and golf balls
- Enter golf tournaments
- Buy golf shirts, hats, shoes, clubs, balls, towels for men and women
- Golf cart rental available
- Men's and Women's locker rooms
- Club storage based upon availability

"M" MOUNTAIN GRILL

575.835.6736 (*snack bar*)

- Buy a cold drink
- Enjoy lunch with a friend
- Have a snack
- Have breakfast

DRIVING RANGE

- Buy a bucket of balls for driving range practice
- Work on your golf swing, tempo, alignment, and all around game

PUTTING GREEN & CHIPPING GREEN

- Free
- Practice your putting, chipping and greenside bunker shots
- Get a feel for the greens

For more information visit our website: [nmt.edu/nmt-golf-course](http://www.nmt.edu/nmt-golf-course) or call 575.835.5335.





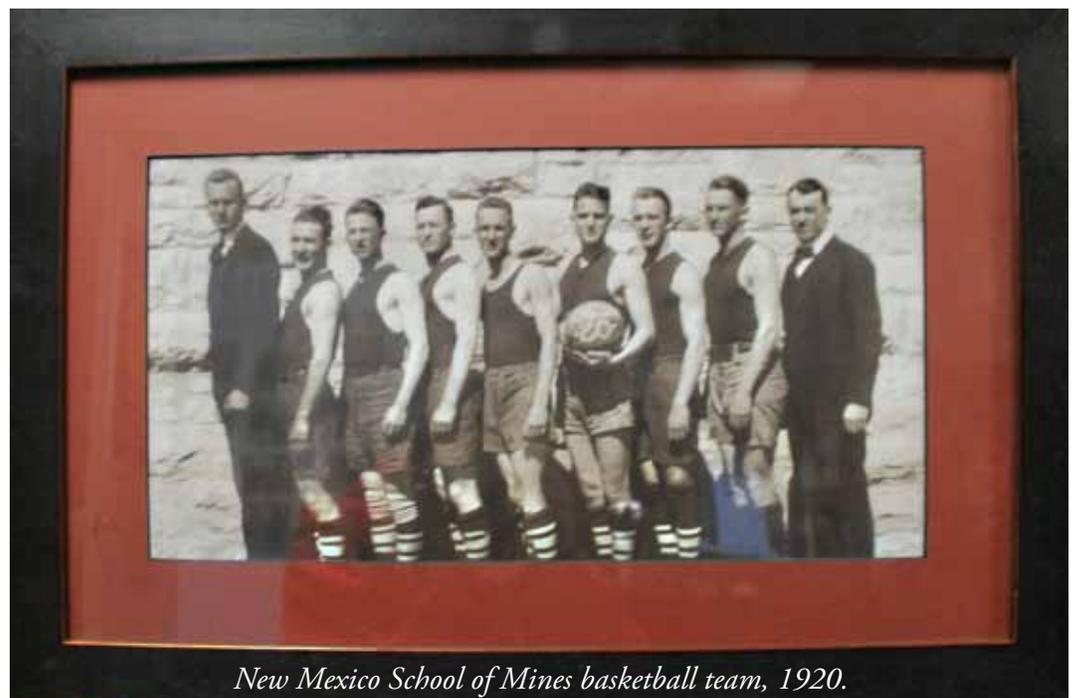
The School of Mines, Class of 1920. *This picture was donated by the family of Willard Norris Dixon. William was born in Albuquerque in 1900 Territory of New Mexico; his family moved to Tucumcari in 1909. He graduated from New Mexico School of Mines in May of 1923. During summers he worked in the coal camps at Dawson, New Mexico, and in Mexico. While attending NMSM he was on the football team. Here is a quote from the school's newspaper in November 1920:*

“W. N. Dixon, one of the year's best bets on the football team, suffered a regrettable injury to his leg during a scrimmage last Tuesday night. This will cripple the team very much as he will be unable to play for the rest of the season.”

After graduation William worked in mining in Jerome, Arizona, several mines in Mexico and then went to work for Ingersoll-Rand Mining Machinery Co. in New York, and Denver. While in Denver he sold mining equipment all across the Rocky Mountain west from Wyoming to New Mexico.

In the 1930's he went to work for the New Mexico Highway Department.

In 1938 William decided to return to school and graduated in 1942 with a degree in dentistry. He practiced for 23 years in Santa Fe he volunteered for the Archdiocese of Santa Fe and the civilian Japanese internment camp. He died in 1967 from cancer.



New Mexico School of Mines basketball team, 1920.

people you know

1950's

Marvin W. Rowe ('59) of Santa Fe has earned the Society of American Archaeology's Fryxell Award for Interdisciplinary Research (in physical sciences), based on his role in developing methods for rock art dating. He also was honored for his minimally destructive dating technique for fragile organic artifacts, as well as his service to the profession through scholarship, student training and public dissemination.

Rowe earned his bachelor's in petroleum engineering at Tech in 1959. He earned his doctorate in nuclear chemistry from the University of Arkansas in 1966.

While other rock art dating methods have come and gone, Rowe's method has stood the test of time and has become the most successful way to establish a numerical age for rock paintings.

Rowe is professor emeritus in chemistry at Texas A&M University. He and his wife, Kate, retired to Santa Fe in 2002. Rowe now serves as a volunteer

research scientist at the New Mexico State Museum Restoration and Conservation Unit of the Museum of Indian Arts & Culture/Laboratory of Anthropology and the New Mexico Office of Archaeological Studies, where he is building an analytical lab for dating artifacts.

1970's

David C. Hobbs ('76) accepted a position as Vice President-Drilling for Devon Energy in Oklahoma City.

1980's

Mary T. Torres ('83) of Albuquerque, N.M., an attorney in the firm of Beall and Biehler, was elected the secretary of the American Bar Association at the organization's Annual Meeting in Boston in August 2014.

Torres is a 13th generation native New Mexican who received her bachelor's degree from New Mexico Tech in 1983. She was an educator in her hometown of Socorro, at Socorro High School for six years

before attending law school at the University of New Mexico, where she received her Juris Doctor degree in 1992. She is the first Hispanic woman to be elected as an ABA officer.

Torres primarily handles civil litigation matters, and has extensive experience in civil rights, employment, insurance, premises liability and governmental liability related matters. She has jury and bench trial experience in both state and federal courts.

Previously, she was New Mexico's elected state delegate to the ABA House of Delegates for nine years and was secretary of the House of Delegates Minority Caucus for three years. Torres served on the ABA Commission on Racial and Ethnic Diversity, the ABA Bar Activities and Services Committee and the ABA Standing Committee on Public Education.

She was New Mexico's Outstanding Young Lawyer in 1995 and a past recipient of the UNM Zia Award. Torres was State Bar president in 2002, the first Latina

to serve as president of any state bar association and was also the first Latina president for the National Conference of Bar Presidents. She is the co-chair of the State Bar of New Mexico's Committee on Diversity, is active in the New Mexico Hispanic Bar Association, and serves as secretary of the Board. She has served on the UNM Law School Board of Visitors, UNM Law School Alumni/ae Board of Directors, New Mexico Defense Lawyers Association, the Defense Research Institute and the State and National Hispanic Bar. She was the recipient of the 2012 New Mexico Women's Bar Association Henrietta Pettijohn Award.

2000's

Norelle Shlanta, ('08) Announcing the engagement of Norelle Shlanta, daughter of the late Sondra and Alex Shlanta (New Mexico Tech alumni) of Ridgecrest, Calif., and Gavin Swanson, son of Paul and Stacey Swanson of Livermore, Calif. Miss Norelle Shlanta returned



to Ridgecrest, Calif., in 2008 after earning a master's in mathematics from New Mexico Institute of Mining and Technology. Her fiancé Gavin graduate from California State University-Chico with a bachelor's in mechatronic engineering. Norelle and Gavin met in Ridgecrest in late 2010. The couple became engaged late August 2013 during their summer vacation. The proposal was 40 feet underwater during a morning scuba dive. The couple is planning to marry in the spring of 2014.

Dr. Madhuri Manpadi, ('08) a 2008 New Mexico Tech graduate

and professor at Drury University, received the Faculty Award for Scholarship at Drury. Manpadi earned her doctorate in chemistry from Tech. She has been on the Drury University faculty since 2012.

A student and faculty committee selects recipients of the Faculty

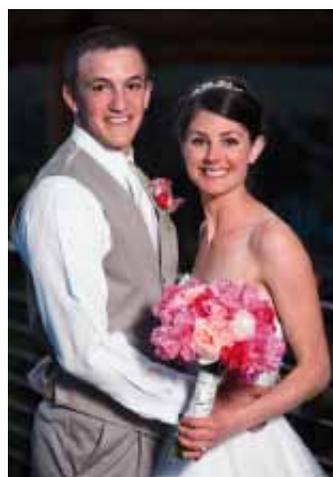


Awards. The committee receives nominations from students, faculty, administrators, and alumni. Each of the honorees is recognized for challenging, engaging, and inspiring students both inside and outside the classroom.

Garrett Lynn McKee, ('12)
Jennifer Leigh Draelos ('14)
Beth and Jerry McKee of Bloomfield announced the wedding of their son,

Garrett Lynn McKee, of Anchorage, Alaska, to Jennifer Leigh Draelos. The couple was married May 23, 2014, at Nature Pointe in Tijeras, with Robbie Price officiating. The reception followed at Nature Pointe as well. Garrett and Jennifer honeymooned in Costa Rica. They plan to make Anchorage, Alaska, their home.

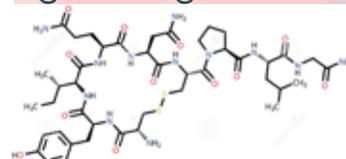
Jennifer is the daughter of Tim and Laura Draelos of Albuquerque. She graduated in 2010 from Eldorado High School in Albuquerque and this year from New Mexico Tech with a bachelor's in biology and a minor in



chemistry. She is attending the University of Alaska, Anchorage.

Garrett graduated in 2008 from Bloomfield High School and in 2012 from New Mexico Tech. He is a chemical engineer with ConocoPhillips.

The bridesmaids were the bride's sisters, Callie Poboril, Lara Draelos, Lauren McMullen, Sarah Reed, Cassie Walker and Audrey McKee. Colby McKee, the bridegroom's brother, was best man and the groomsmen were Marc Morin, Zach Taylor, Cade Payne, Daniel Bassing and Travis Cannady.



Sweaty palms, nervous knots and shaky knees! Did these lead you to find true love at New Mexico Tech? E-mail your stories and photos to alumni@nmt.edu or drop us a card or letter:

*Gold Pan/Fidel Center
801 Leroy Place
Socorro, NM 87801.*

in memoriam

Theresa G. Johnson

Theresa G. Johnson, 84, died April 9, 2011, at La Vida Llena Retirement Community in Albuquerque.

She was born in Northampton, Mass., Oct. 9, 1926, the daughter of Amelia and Joseph Guzowski.

She was educated in Northampton schools where she was a star basketball player. She completed her undergraduate education at the University of Vermont and earned her Master of Science Teaching degree at New Mexico Institute of Mining and Technology.

She married Norman G. Johnson in 1951 at Fort Benning, Ga. Following a brief career as a mathematician in General Electric's engineering department, Mrs. Johnson became a science and mathematics teacher in Proctor, Vt., El Paso, Texas and Albuquerque. Her teaching awards include New Mexico Science Teacher of the

Year, Albuquerque Public Schools Science Teacher of the Year and New Mexico Outstanding Earth Science Teacher.

John Albert Kruppenbach



John Albert "Jack" Kruppenbach, 86, of New Holland, Pa., "charged ahead" into Heaven on June 26, 2014, at home with devoted caregivers and his beloved four-legged companion "Misty" at his side. He died from advanced congestive heart failure brought on by treatment for cancer in 2007. He was the husband of the late Elizabeth Anne "Bebe" Kruppenbach who died in 2012, with whom he shared 58 years of marriage. Born in Allentown, Pa., he was

the son of the late Harry and Mabel (Barrett) Kruppenbach. Jack was a member of Harmony United Methodist Church, Morgantown, where he sang in the senior choir and served as church treasurer.

After discharge from the United States Army, Jack received a bachelor's in geology from New Mexico Tech in 1951. He later attended graduate school at Thunderbird School of Global Management. During his career he worked for Continental Geophysical Company; Geophysical Service Inc.; Trojan Powder Company; and Digicon Geophysical Company. In 1974, he cofounded the Dallas-based geophysical consulting firm Energy Analysts Inc. He remained with Energy Analysts when it was purchased by Landmark Graphics Inc. in 1987.

Jack spent 40 years roaming the globe as a geophysical team scientist and project manager, planning and supervising seismic data gathering

operations in the Arctic Ocean, Yukon and Amazon Rivers, Sub-Saharan Africa, China, Central America, and Australia. He was very proud of his membership in several airline million-mile clubs. His work resulted in patents pertaining to seismic explosive formulations and seismology, including the original "Land Streamer" technology for arctic and desert work. He also published many papers addressing remote-area data acquisition, logistics, boat design, and inflatable technology.

He was a member of many professional associations, including the Society of Exploration Geophysicists, where he served as secretary-treasurer from 1999 to 2000. Jack worked diligently to make financial and operating information transparent to the SEG membership, focusing on ways to eliminate waste and redundancy. In addition to his work in geophysics, Jack cofounded the Riverside National Bank in Grand Prairie, Texas.

Jack and Bebe were active supporters of New Mexico Tech throughout their lives, and established the Kruppenbach-Harrison Scholarship Fund in memory of their parents to help struggling students. Jack received the New Mexico Tech President's Club Alumni Award in 2008.

He enjoyed gardening, traveling, reading, cooking, and conversing on any subject. His front porch was the neighborhood salon, and many lively conversations were conducted with neighbors in the evenings. Jack believed in and followed "The Rhino Principle" throughout his life: Charge Ahead!

Morris "Brud" W. Leighton



Morris "Brud" W. Leighton, Chief Emeritus of the Illinois Geological Survey, passed away April 11, 2014, surrounded by his loving family in his home.

Brud was born in Urbana, Ill., on June 17, 1926, the son of Morris and Ada Leighton. He graduated from Urbana High School in 1944 and continued with his education at the University of Illinois, earning a bachelor's in chemistry in 1947, and then at the University of Chicago, he earned his master's in geology in 1948, followed by his doctoral degree in geology in 1951.

He began his career with Standard Oil of New Jersey/Esso in Tulsa, Okla., leading into a distinguished 32-year career as a geologist and manager which took him around the world with his high-school sweetheart and loving wife, Jean Bosley Leighton, and family in tow.

Upon retirement from Esso, Brud began a second

career serving the Illinois State Geological Survey as its chief for 11 years. Brud earned many awards and accolades over the span of his two careers. He has authored more than 75 published works. His forte in exploration for oil and gas, his deep understanding of the geologic phenomena of his surroundings, along with his thirst to experience the cultures around the world made him a most interesting person.

His love of Urbana, the Fighting Illini and the University of Illinois never abated with his generous, enthusiastic support. He also remained active with Urbana Rotary, the Illinois State Geological Survey, University of Illinois Department of Geology, Association of American State Geologists, Geological Society of America and American Association of Petroleum Geologists.

Alfred J. "Al" Mattus
Alfred J. "Al" Mattus, 55, of Oak Ridge, died Thursday, Sept. 18, 2003, at Methodist Medical

Center of Oak Ridge. Born May 13, 1948, in Taylor, Pa., he was the son of Alfred John and Grace Schultz Mattus, both now deceased.

Mr. Mattus attended New Mexico Tech and then served in the U.S. Army and was employed at the Oak Ridge National Laboratory, where he was a chemist.

Mr. Mattus is survived by his wife, Catherine Peyre Mattus; two sons, David Jonathan Mattus, and fiancée, Dawn Nicholson, of Oak Ridge and Marc Alfred Mattus of Myrtle Beach, S.C.; two daughters, Elissa Lynn Mattus, and fiancé, Chad Diggs, and Marie Stephanie Mattus, all of Oak Ridge; a sister-in-law, Lee Mattus of Bridgeton, N.J.; her granddaughter, Katelyn Ellisa Mattus; and by his former wife, Chong Sperry, and husband, David. Bill and Amalia Delcul of Oak Ridge are considered special friends.

Paul Jeffery Moore



Paul Jeffery Moore, 60, of Carlsbad, N.M., passed away May 19, 2014, after his recent battle with Valley Fever.

Paul was born in Albuquerque, New Mexico on February 7, 1954. He graduated from the New Mexico Military Institute and continued on to receive a bachelor's in mining engineering from New Mexico Institute of Mining and Technology in 1984, and a master's of business administration from Western New Mexico University.

Paul married Brenda Cassady on February 7, 1976, in Socorro. They were married 38 years.

A dedicated miner, Paul worked for various precious metal mining operations. The majority of his work experience was in open pit surface operations in New Mexico and Arizona. Paul recently worked for Intrepid Potash in Carlsbad. He enjoyed constructing and flying radio-controlled airplanes, as well as building hot rods, Harleys, and his experimental Zenith aircraft. As a mine engineer, Paul had gold fever and was an experienced gold prospector, as well as the ultimate gold panning instructor. Paul was an avid hunter and fishermen.

He was also actively involved in the Alpha 1 Antitrypsin Deficiency Foundation, where he raised awareness for this rare genetic disorder. Paul is survived by his wife Brenda.

James Post

James L. Post, 84, passed away Aug. 9, 2014, in Grass Valley, Calif.

James "Jim" Lewis Post was born on Sept. 25,



1929, in South Bend, Ind. He received his degree in mining engineering from the New Mexico School of Mines. He then worked as a mining engineer throughout the western hemisphere, including Bolivia. After a considerable number of years, he decided to get his Ph.D. in civil engineering from the University of Arizona in Tucson.

Thereafter, he was hired as a professor at California State University, Sacramento, where he taught civil engineering for 28 years before retiring as a professor emeritus.

His writing career included many articles published in peer reviewed scientific journals. The last one, in the journal of Applied Clay Science, was titled "Uses of

Near-infrared Spectra for the Identification of Clay Minerals." It was published on April 28, 2014.

Jim is survived by his wife Elena Streltsova, a native of Armenia, and her son, Mishka Ghahramanyan; brother John F. Post and his wife, Mary E. Mahoney, of Sonora, Calif.; brother L. Lee Parmeter and his wife, Margie, of Biloxi, Miss.; and sister Saralee H. Norris and her husband, Lawrence, of Sumiton, Ala. He is also survived by his cousin Mary E. Post McGlothlin and her husband, Everett, of Sheridan, Wyo.; as well as numerous nieces and nephews.

James J. Pulaski Jr.



James J. Pulaski, Jr., 77, a retired metallurgical engineer, died Wednesday, May 7, 2014, in Milford Regional Hospital, Milford, Mass., after an illness. He leaves his wife, Patricia and their four children. He graduated from St. Stephens High School, Worcester Junior College, and New Mexico Institute of Mining and Technology.

Jim was a metallurgical engineer at Wyman Gordon, V.P of Quality Control at Smith Valve, and served as a consultant in his field before retiring to concentrate on his activities as a New England square dance caller. He was an active member of St. Mary's Church in North Grafton.

John Rudd

John Rudd passed away Oct. 17, 2013, in El Paso, Texas, as a result of a severe stroke.

John graduated in 1969 with a bachelor's in chemistry and went on to New Mexico State University to receive his master's in chemistry before beginning his career as a forensic chemist with the Department of Public Safety for the State of Texas in 1973. He retired as the Head of the DPS Crime Laboratory in El Paso in 2000.

After that he devoted most of his time to his life long passion for cars. He served as president, treasurer and secretary for the Rio Grande Wheels Car Club.

Over the course of his life he owned a 1965 Corvair,

a 1968 GTO, a 1970 Ram Air II Trans Am, a 1973 Super Duty Grand Am SJ, several Lincoln Mark VIII's, a 1940 Ford Cabriolette hot rod, a 1950 Plymouth Custom, a 1948 Chrysler Hot Rod, a 1939 Plymouth Sedan delivery, a 1964 Max Wedge Sport Fury, as well as an assortment of Chrysler Imperials and a Cordova.

He will be missed by all that knew him. His ashes were interred with his parents in Colorado Springs.



A Lasting Legacy

Endowed Scholarships

An endowment provides New Mexico Tech with more financial support over the years than a gift of current use. An endowment is a fund or pool of funds that is continuous, dependable and managed to preserve its value in perpetuity. Tech maintains numerous endowed scholarships (most of them memorial) that are based

on departments, academic standings and special interests.

Donors can also endow a chair in the department of their choice. Through such a gift the donor can fund a research position in the department of his or her choice, direct a course of research, or simply augment the existing resources of the department. Many donors wish to support the departments where they studied. Companies with special interests often support ongoing research in their field of expertise. A chair is considered endowed once a fund reaches \$1.5 million.

Would you like to establish a new scholarship opportunity for faculty or students at New Mexico Tech? You can create a scholarship with any amount; however, a scholarship is not considered to be "endowed" until it reaches \$15,000 at which point it is able to sustain itself in perpetuity. Several of the scholarships that have been established by donors are memorial scholarships. If you would like to start a scholarship fund, please contact the Office for Advancement at 575.835.5616.



the last word

brigitte ek

Brigitte Ek transferred from a much larger state university to New Mexico Tech in the spring of 2013 because she felt Tech had more to offer scholastically.

Brigitte, 23, said she was drawn to Tech's Mechanical Engineering program because of the depth of its junior and senior engineering design projects. "The amount of technical work we do is incredible," she said.

The senior readily acknowledged that the engineering courses at Tech are much more difficult than what Brand B offers – all while affording students opportunities to work on projects that are literally out of this world.

Brigitte has lived and studied thousands of miles from Rio Rancho, N.M., where she graduated from high school in 2009. Her father works for Sandia National Laboratories, and her mother is a French teacher.

Brigitte, who has three older sisters and one younger brother, thus far is the only one of her siblings to choose engineering as a career. "The others pursued degrees in social sciences," she said.

Her father, also a mechanical engineer, some time ago moved his family to Austria for three years while on assignment for the United Nations – Brigitte attended ninth through 11th grade in Vienna, Austria. "It was a great experience," said Brigitte, who learned to speak German and is trying to learn French.

Brigitte has always been drawn to science and math – in fact, she may seek a minor in the latter "if I have room for it," she said. Brigitte credits her parents for their wholehearted support in her academic decisions.

"At Tech, your professors know your name," she noted. "You don't realize how important that is in a learning environment."

Brigitte no longer is eligible for the Lottery Scholarship, but does work as a grader for the Department of Mechanical Engineering. "I'm looking at other Tech scholarships to apply for," she said. In the meantime, Brigitte contacted alumni during the annual Phone-a-thon to raise additional scholarship funds.

She is the co-team leader on an American Institute of

Aeronautics and Astronautics (AIAA) Design Build Fly research project under adviser Bill Marcy in building a remote-controlled airplane. "I also do other research on wind propulsion with Dr. Tie Wei," Brigitte said.

Brigitte completed a NASA internship in the fall of 2011 in Huntsville, Ala. She spent last summer at the Johns Hopkins University Applied Physics Laboratory working primarily with satellites electronic boxes.

"The project is called Solar Probe Plus, which is a mission through NASA to touch the sun," she said.

The Solar Probe Plus is being designed to enter the sun's photosphere (depth of a star's outer shell from which light is radiated), some three million miles from the sun's surface. The launch is expected to happen in 2018.

Brigitte played soccer, volleyball and track while she was a student at the Vienna International School in Austria, competing internationally. She is a newly minted forward and center midfielder with the Women's Soccer Club at Tech.

Brigitte also is a member of AIAA, the National Society of



Collegiate Scholars, and has served as president of both the Chi Omega Fraternity and the Society of Women Engineers.

Moving from a city to a small town did impact Brigitte – at first. "Initially, I didn't like Socorro," she said. "But once I got more involved on campus and found my niche, I fell in love with Tech."

Ideally, after graduation in May 2015, Brigitte would like to pursue a career in space research and exploration by designing vehicles and satellites.

Thus far, New Mexico Tech has given the senior engineering student the tools she'll need in the future. "I think it's a great school," she said. "And the fact that it's one of the top eight engineering schools in the country is incredible."



**New Mexico Institute
of Mining and Technology**
801 Leroy Place
Socorro, NM 87801
www.nmt.edu/advancement
www.nmt.edu/gold-pan
www.nmt.edu

Address Service Requested



NEW MEXICO TECH
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY

