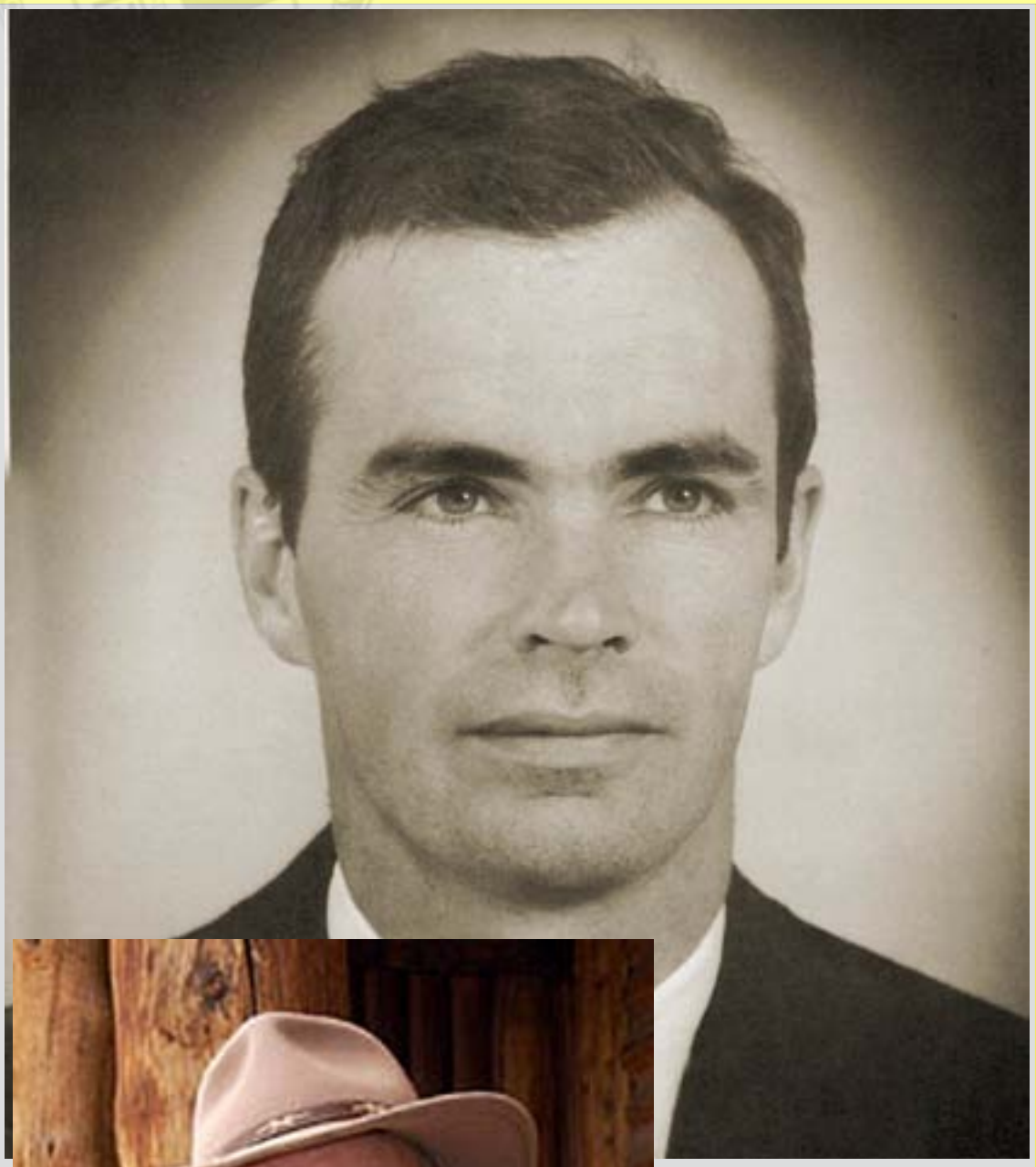
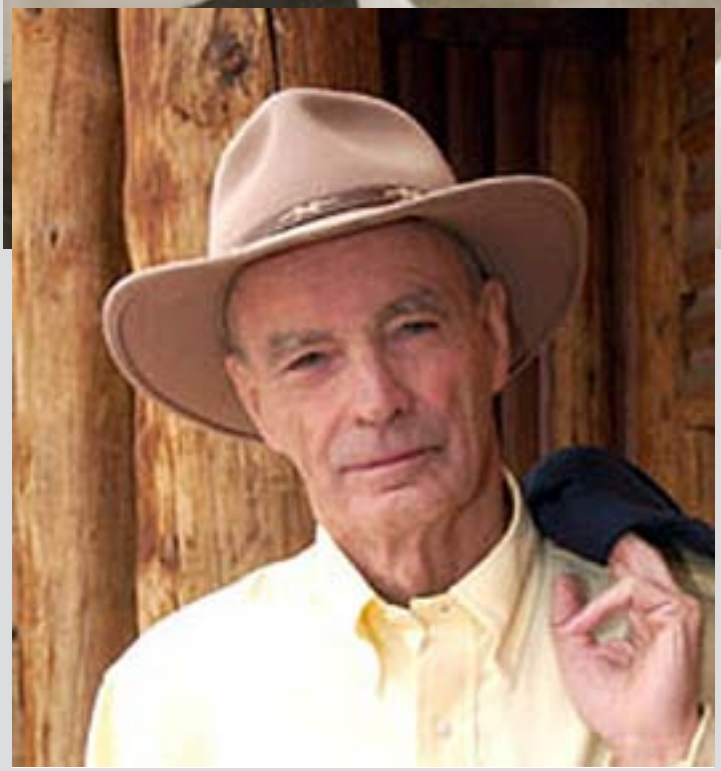
NEW MEXICO TECH
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY

GOLD PAN

ALUMNI MAGAZINE FALL, 2011





Stirling Colgate (born 1925) was America's premier diagnostician of thermonuclear weapons during the early years at the Lawrence Livermore National Laboratory in California. He was among the few that initially realized that the emissions of supernovae could have set off American satellites spying on the Soviet Union and spark a third World War.

A word from the President . . .

Dr. López meeting with Tech students

Major donor Bill Macey ('42) and Dr. Dan López

Hello, Alumni!

The Fall 2011 semester has started, and New Mexico Tech has another large (for us) new crop of freshmen. As I write, our enrollment numbers aren't official, but it looks as if we are threatening to break the record for student population (1,927 students in Fall 2008).

I have met quite a few of our new students, and it's obvious that we continue to attract the brightest young students in New Mexico. We also are attracting a crop of out-of-state students who are discriminating enough to realize the value of a Tech education and the quality of education. These young scientists and engineers will be future Alumni Association members; and I can report that they are a cut above their peers.

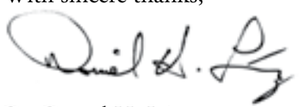
The growth in student population has taxed our dormitories, and we've had to get creative to house all the students who want to live on campus. To meet this obligation, we have sold a revenue bond, giving the university more than $9 million toward construction of a new residence hall.

That's just one of the changes occurring on campus. We also are working diligently to lobby the State of New Mexico to provide funding for a new Bureau of Geology building as well.

Plans for this year's 49ers Celebration are coming along well. The Alumni Relations Office has a series of events planned for you, as well as the standard activities. This year is the 100th anniversary of the construction of the 'M' atop Socorro Peak, which you all probably know by its popular name, 'M' Mountain. We are taking extra steps to give the 'M' a complete cleaning and painting. Instead of the traditional Sunday morning activity, the Paint the 'M' event will be on Friday morning. We hope to get more students involved – and we encourage alumni to take part as well or, to join the climbing party. The students should be able to carry all the materials up the mountain, but we can use your help in painting the 'M'. Of course, I'm sure it would be very nostalgic for many of you to climb the mountain one more time and take part in this annual project.

Lastly, I want to thank you for your continued support of the Alumni Association and New Mexico Tech. Your dedication is appreciated!

With sincere thanks,



Dr. Daniel H. López
President

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inside
GOLD PAN
ALUMNI MAGAZINE

Greetings!

Letter from the Director
Office for Advancement
September 2011

Greetings, Alumni and Friends!

The New Mexico Tech campus is alive with students and activity in this season of "new" beginnings – we set another fall semester enrollment record for new freshmen, the new Child Care Center is progressing on schedule, and plans are under way for a new student residence hall. My staff burned the proverbial midnight oil preparing for the 17th annual President's Scholarship Golf Tournament, which was a huge success, and 49ers will follow on October 21-23.

In this issue we offer you highlights from 2011 Commencement ceremonies held May 14 under sunny Socorro skies, including New Mexico Tech's top award winners; as well as the ever-popular People You Know series that brings alumni readers up-to-date on former classmates and friends.

Many of you we had the pleasure to meet in person, at alumni receptions from the West Coast to the East Coast, and to Arizona and Texas (which has its own coast!). As always, we welcome suggestions on places to host additional alumni gatherings – just drop us a line and let us know!

We hope more of you are finding each other in cyberspace via the alumni registration site on the Office for Advancement website. And forgive us for recent e-mail blasts in efforts to keep you apprised of campus events that might be of interest.

Finally, we are pleased to present in this issue an exclusive interview with the very eminent Dr. Stirling A. Colgate, who agreed to talk about his 10 years as President of New Mexico Tech for Gold Pan readers only.

And, please remember, that your letters, comments and suggestions are always welcome.

Until we meet again—

Sincerely,

Colleen Guengerich
Director, Office for Advancement

Table of Contents

Features

Departments

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Toll-Free Numbers
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Admission:	Press 1
Financial Aid	Press 2
Graduate Office	Press 3
Advancement	Press 4
Housing	Press 5
Registrar	Press 6

letters

Paul E. Shoemaker

President, NMTAA
Physics, 1971

Paul E. Shoemaker

September, 2011, and another academic year has begun. These cycles, so important in the lives of students, faculty, and administration at our Alma Mater, have become increasing less important to us as alumni – unless, of course, you've found yourself back in academia in your professional life. In my own professional life at Sandia National Laboratories, I find myself focusing on federal fiscal year cycles rather than fall semesters.

My frequent communications with folks at New Mexico Tech have re-immersed me in the academic cycle. The university is working very hard to sustain its rigorous educational and research standards in the face of financial challenges coming at it from every quarter. That these challenges are being met with grace and professionalism accrues to the credit of all who work, study, learn, and discover there.

People like that deserve our support. We can offer our time, talent, and treasure, both individually and collectively. Avail yourself of your contacts with department chairs, professors, researchers, and administrators to let them know what help you can offer and what involvement you would like to have with Tech. Contact Colleen Guengerich in the Office of Advancement (575.835.5352) if you need intra-campus referrals.

And please do not forget the opportunity to come home on October 20-23 for 49ers and associated alumni and university activities. Details are being finalized by the Office of Advancement and will be publicized soon on Tech's web site. An important element of those activities will be the Annual General Meeting of the Alumni Association. That meeting will take place on campus on Saturday, October 22 at 1:00 p.m. in MSEC 103.

I hope your year (academic, fiscal, or otherwise) is a good one. Let's do all we can as alumni to help Tech have another great year, too.

To the Editor, Gold Pan:
Congratulations to you and your staff for a splendid spring, 2011 issue. Jim Doty's "Memories of a Miner" was particularly interesting to me, as we were classmates most of our years at Tech (or Mines, as it was then). I think we all must have had tales to tell our experiences in calculus (required in all majors), but not necessarily involving Dr. Sanchez-Diaz or the Capitol Bar.

Until reading his story, I had forgotten about the campus dogs, Needle-nose and Tom. According to the cartoon by Margaret Daniells in the 1949 Porphyry, a third member of the campus fauna, a cat, was involved in how Tom broke his leg. The intrepid (or fool hardy) cat, whose name I don't remember, was involved in a similar incident with a large rattlesnake and, against the odds, survived. Perhaps Jim will remember the details.

Jim is certainly right about E.J. Workman's part in the post-war revitalization of the school, but credits must also go to the students, largely returning veterans like Jim, who brought enrollments to new high levels beginning with the 1945-46 academic year. Also like Jim, many came from other states, with New York and California in the lead. As reported in the October 8, 1947, edition of the Gold Pan (then the student paper), Dr. Workman explained the changes in staffing and curricula that he was introducing since taking the helm in the fall of 1946, including the establishment of a new department of geophysics.

Time would prove that all of us—at least the ones who survived-would be beneficiaries of Workman's

changes in the academic arena. However, not all of his changes were in that area and some were quite unpopular with the students. For example, the editors of the 1948 Porphyry wrote:

"For the second consecutive year, the New Mexico School of Mines is not represented in intercollegiate competition. Too many of us who years ago adopted the school as our own, this is a source of great sorrow.

With the cessation of intercollegiate competition, the school lost much of the wonderful spirit which it was noted and which made its undermanned teams feared throughout the far southwest."

It is no surprise that Porphyry editor-in-chief Jack Reinhart ('49, Mining and Geology) was a member of Mines' "Cinderella" basketball team that in 1946 won the New Mexico Conference Championship and played in the National Association of Intercollegiate Athletics tournament in Kansas City.

In retrospect, such changes, too, were to the ultimate benefit of the school.

Sincerely, ***Alan Cheetham***, *Geology, 1950*

Robert Stephens, a 1963 geophysics graduate of New Mexico Tech, donated his school jacket to the Office for Advancement. The jacket is in excellent condition in part due to Mr. Stephen's army and job obligations. He was a member of the Alumni Association during the 1970's. Thank you Mr. Stephens!

If you ever have NMT memorabilia that you would like to donate back to the university please contact the Advancement office at 575.835.5616, or by e-mail at ***tortiz@admin.nmt.edu.***

Correction: Our apologies that our last edition of Gold Pan incorrectly documented the contributors to the Class of 1960 Endowed Scholarship Fund. The correct list should have been: Tom Boyd, Dan Butler, Ed Dire, John Dowdle, Ed Erickson, Chuck Garrett, Bill Hawes, Bob Jones, Chuck Kellogg, Don McKelvey, Clyde Richards, Russ Staub, Harvey Westbrook and Fritz Wolff. Four men who had conflicts in May (and hence did not appear in the group photo) came to 49ers in 2010, and all of them contributed to the fund or to another scholarship fund. They were: Jimmie Church, Larry Dykers, Bruce Erkkila, and Tom Scarticcini. There were two businesses that helped to complete the endowment with matching funds. They were Chevron Humankind Match and Conoco-Phillips.

rankings

Princeton Review
- *Ranks Tech as one of the Top Western Colleges and as a Top National Value in its publication every year*
- *Ranks Tech in its "Best 376 Colleges" publication*

Newsweek
- *Ranks Tech among the Top 25 Rural Schools*
- *Ranks Tech among the Top 10 Public Schools*

U.S. News & World Report
- *Ranks Tech in its top 100 "Best Value Colleges" every year. Tech is also ranked as the No. 2 master's degree institution in the West in this ranking.*

Forbes Magazine
- *Includes New Mexico Tech in its top 600+ universities. In the 2010 list, Tech was ranked #334 in the nation.*

Kiplinger's
- *Ranks New Mexico Tech in its Top 100 Best Value Universities. In this ranking, Tech ranks best for low tuition and average debt upon graduation (among the top 100).*

Washington Monthly
- *Ranks Tech as a Top 25 Master's University in its national ranking.*

Mount Saint Augustine
Image courtesy of Steve J. Smith and AVO/USGS/Geophysical Institute University of Alaska Fairbanks.

volcanic lightning: no movie can compare

Victoria Carreon

The pressure builds up, pushing magma through a vent until the hot liquid surrounds the opening; the eruption of a volcano brings to mind the images of chaos witnessed in films. In Hollywood, people avoid volcano-stricken areas and place as much distance as possible between themselves and this force of nature. The same is mostly true for reality, but mostly doesn't mean completely. In the real world, there are individuals who purposely seek out erupting volcanoes. These people are researchers who study something that isn't often seen in films – volcanic lightning.

Volcanic lightning is a normal part of an erupting volcano, but little is known about its occurrence.

Researchers at New Mexico Tech are hoping to change that by heading in the direction of erupting volcanoes.

"When we hear of a volcano erupting, we say 'Let's go,'" said the lead researcher on the project, Dr. Ron Thomas, a professor in the Electrical Engineering Department. He works with a team of other scientists who are studying the cause of volcanic lightning. This team includes Dr. Bill Rison, also from the Electrical Engineering Department, and Dr. Paul Krehbiel, a member of the Physics Department. Dr. Thomas said that he and the other researchers are hoping to gain insight into volcanic lightning as well as thunderstorm lightning. "What we want to know is: why do we have all this lightning during volcanic eruptions?" said Dr. Thomas. "We're going to volcanoes and measuring the lightning to see where it is, see how it behaves like thunderstorm lightning and how it's different than thunderstorm lightning."

Dr. Thomas and his research team have been studying volcanic lightning since January 2007, when they observed the Mt. St. Augustine volcano in Alaska. When Tech's researchers initially planned their study, they thought they had missed the eruption, meaning that they would be unable to collect their first set of data. Luckily for them, Mt. St. Augustine's eruption usually lasts about two to three weeks, and it has been known to erupt multiple times. After conferring with researchers who study Alaskan volcanoes, they made the journey to Alaska in the middle of winter to set up their equipment. Mt. St. Augustine provided Dr. Thomas and other researchers with their first interaction with volcanic lightning. Ever since then, the Tech research team has been chasing volcanoes around the globe. These individuals are focused on the clouds of ash and lightning that form during a volcanic eruption in an attempt to figure out the electrifying nature of these formations.

Dr. Thomas said that he and his team initially thought of studying the occurrence of volcanic lightning after realizing they had the equipment available to observe the lightning properly. Both thunderstorm and volcanic lightning can be measured using sensors in a lightning mapping system called a Lightning Mapping Array. These instruments receive a radio signal caused by the lighting. Dr. Thomas relates the signal received by the sensors to the reception of static on a radio during a thunderstorm. He said the crackling sounds heard on the radio are the results of the signals being sent by the lightning from the storm. The reception of radio signals is what allows researchers to measure the size of the lightning. These signals paint a picture of lightning, whether it's part of a summer storm or a fiery volcano.

"We developed a system to study thunderstorms and we made it so that it's quite easy to set up and it's portable so we can take it around and set it up in different places. We decided to see if we could use it to study lightning that comes from volcanoes," said Dr. Thomas. "We had seen pictures and heard reports that there was lightning with volcanoes. We said, 'That sounds strange -- let's see if we can take some measurements and see what's going on.'"

The researchers set up their equipment in different locales in order to collect their data; some places are as near as Magdalena but can also be as far east as Kansas. The mobile equipment allows the team to set up their equipment in close proximity to lightning. Dr. Thomas said that he and his team are able to collect data for thunderstorm

lightning during peak thunderstorm seasons, typically during the summer. Since thunderstorms occur regularly during that time, they are able to obtain large quantities of data for their research relating to thunderstorms. However, knowing when a volcano is going to erupt requires more analysis since there isn't a season during which volcanoes are more likely to explode.

In order to know where their equipment needs to be, researchers need to use indicators that allow them to develop a time period in which certain volcanoes are likely to erupt. This determination involves the interdisciplinary collaboration between the Electrical Engineering and the Earth and Environmental Science departments.
The research that the EE department is doing in conjunction with the Physics Department will allow scholars to understand the similarities and differences between volcanic lightning and thunderstorm lightning, as well as what causes volcanic lightning to occur.

As they follow volcanoes in hopes of gaining insight into volcanic lightning, Tech's researchers have to prepare to leave at a moment's notice. Dr. Thomas' said the equipment is highly portable, but still requires that they check lots of baggage during their expeditions. He also said that the airlines don't seem to mind the extra revenue that they make off the team. Dr. Thomas and his team have collected data at five volcanoes in Alaska, Chile and Iceland.

During April of 2010, Dr. Thomas and his team witnessed the eruption of the Eyjafjallajokull volcano in Iceland. This volcano's eruption and its related ash clouds caused mayhem for international airlines because aircraft were unable to fly near it, interrupting a popular route for airplanes flying from North America to Europe. This volcano also erupted this past year, just after the team had decided they were going to take down the equipment. When the volcano did erupt after a passive year, the researchers still made a trip to Iceland, where they maintained the equipment instead of removed it. The Icelandic volcano, said Dr. Thomas, is his favorite volcano because he was able to actually see the lightning and witness the eruption instead of just receiving data, which was the situation in Alaska.
The second eruption of the Icelandic volcano did not create as much hassle for airlines as the eruption in 2010, but there were still ash clouds, and while these ash clouds create difficulties for airlines, they are useful to researchers, because volcanic lightning can often be found in this part of a volcanic eruption.
The technology used to study lightning indicates that there is a significant difference between the size of lightning associated with volcanoes and that of thunderstorms. While volcanic lightning is usually only a couple of hundred feet long, lightning from a thunderstorm is typically about four to five miles long, but can extend much further, sometimes as long as 20 miles. Despite the significant difference in size, there are some similarities between the two types of lightning.

Both volcanic and thunderstorm lightning are cause by energized particles. Dr. Thomas describes the phenomenon of volcanic lightning as a localized thunderstorm. He said that the ash plume from the volcanic and the air from the vent create conditions similar to those of a thunderstorm. Additionally, he noted that near the opening of the volcano, smaller lightning can be found. He said that this lightning is very small, is more like sparks than thunderbolts and is much more frequent.

The eruption of Eyjafjallajokull on April 16, 2010. In the foreground the small Iceland horses graze peacefully.

research: volcanic lightning:

"We're observing that the lightning that goes as the volcano's erupting, right close to the vent of the volcano, the particles are coming out of the volcano charged," said Dr. Thomas. "So, some mechanism—inside—as the ashes form, as the magma turns into ash and is erupting, they become electrically charged."

Dr. Thomas said the working hypothesis right now is that the charging of particles probably happens as the pieces of ash are breaking into little pieces. He indicated that other researchers have suggested this idea as well.
"Anytime particles come together and then when they come back apart, the electrons on sort of the on the edge there, more of them will cling to one side more than the other side…" said Dr. Thomas.

"It's sort of like microscopic surface physics going on there as particles touch and break apart … then you don't have a balance of electrons," Dr. Thomas added. He also said there is another occurrence during a volcanic eruption.

The other thing going on is water vapor that is dissolved in the magma and then as the volcano erupts, the magma comes out of the solution, creating bubbles. Dr. Thomas said that these bubbles are what actually power the volcano, saying that it's "sort of like shaking up a coke and then letting it out."

As Dr. Thomas and the other researchers observe and study erupting volcanoes, they are adding to the science community's understanding about lightning, both from volcanoes and thunderstorms.

"We're working on a better understanding of lightning and lightning processes; the processes that are going on in thunderstorms and all the basic physics questions about lightning and charge separation," said Dr. Thomas.

Observing erupting volcanoes might sound like the plot of an action adventure film, but for Dr. Thomas, this is a real aspect of his work. It sounds like Hollywood, however, the intensity of his research is very real and has realistic applications.

Dr. Thomas explained that knowledge of volcanic lightning can improve air safety in places where the weather is bad and airline workers cannot easily determine if an erupting volcano is going to be a hazard. He referenced Alaska as one such place. Since airlines fly over this state en route to Asia, having a better idea of potential hazards would help ensure continued safety. Dr. Thomas also said that working with volcanic lightning is also fulfilling a personal interest of his.
"I like to try to understand what's going on in the Earth and I like lightning. It's a very interesting thing to study because it's something you can see – something that's very powerful, and so are volcanoes," said Dr. Thomas. "So, the whole process I find fascinating—to be able to study something as exciting as this—as lightning and volcanoes."

Eyjafjallajokull Volcano Lightning

Dr. Thomas said he has been interested in lightning for a long time, and had studied it for about half of his career. He added that his current research is improving knowledge about lightning as a process. He also said that he enjoys following erupting volcanoes and that studying them in person is his favorite part of this research.
"It's going to different places, and seeing the lightning, the volcano, and seeing the Earth in action," said Dr. Thomas.

For Dr. Thomas, the only action call is from the volcano and the only cameras being used are the mapping arrays, yet, studying volcanic lightning sounds more interesting than even the most exciting volcano-filled film.

WAY BACK WHEN

COWBOY HART AND FOUR LEGGED FRIEND

memories of a miner

In the Spring Gold Pan, you asked for articles of past times at New Mexico Tech. I have a double header to offer you. My husband, Lawrence E. Nagle, Class of 1938; and his friend, Hart C. Gleason, Class of 1939, often tell Hart's wife, Pal, and me, stories of those good old days at New Mexico Tech. In addition, it is those stories that seem to be the instrument in their lives in the years following graduation.

Lawrence Nagle

Hart Gleason

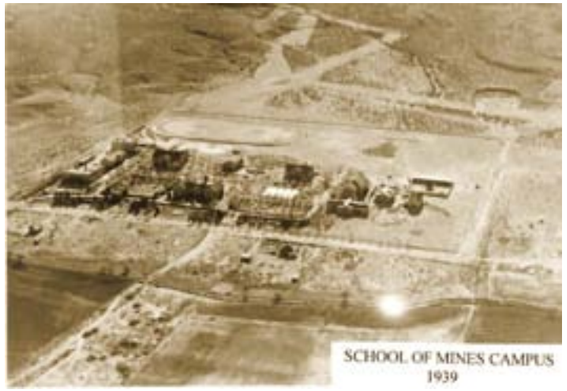
These are men who survived the hard times as well as the good times. They made things happen, and they never gave up their goals to move ahead with their lives. Both men, being successful, are good examples of what hard work can accomplish. It was not easy, at the time, to even meet the financial requirements of getting into or staying in the school. And yet, Larry refers to life there then as some of the best years of his life. I thought it would be interesting to tell their stories as they have been told to me.

Gold Pan agreed, and herewith we are pleasured and honored to offer the following, as written by Joy Nagle.

Hart recalls that six students once took four cases of forty percent dynamite up to the University of New Mexico in Albuquerque: "We blew the U plumb off the mountain!"

Larry recalls that his younger brother Rob, who was one of six, told him that when the dust settled, they rearranged the rocks so that the U was made of to reappear as an M. I

Lawrence Nagle



am assuming that it was probably about 1939. What they did was blow out the bottom curve of the U, then to the top of the two remaining sides, inserted a V turning the U into an M.

Both Hart and Larry remember carrying water or lime up the mountain every year that they were present at the school. Back in those days, there was no road up there, so the trip was all the more difficult than what is done now. It was several years later that the Weather Men built a road to the top of the mountain.

Hart tells of doing school work in the Kelly Mine which is located near Magdalena. It was used for mine-surveying classes. There was an old bar in town with a dirt floor and an impressive antique bar back. (I am curious if that is still there.) Hart was there several times before he noticed an inscription near the top. "This is where Damon got Pythias drunk." Hart added, when sending this note to me, "Read carefully and aloud! Who would have expected to find Greek mythology in a Magdalena bar?"

The Great Transom Kidnapping

During Larry's first year at the school, he was awakened to find three young men in his room; and, as he put it, making a bunch of noise and telling him he had to go with them. The funny part is, they obtained entry to his

Larry and Hart Golfing In Arizona

room by having one of them crawl in through the transom, then dropping down to unlock his door. They dragged him, in his pajamas but letting him put on shoes, about a mile up the mountain to a lean-to shack, and tossed him in. Since the shack had no lock, they left one of the men to "guard" him after taking his shoes away from him so he could not run away.

Larry said that he had a very important test to take at early class, and if he was not present for it, he would not get credit and it would affect his graduation points. So, when the trustee guard fell asleep, Larry snuck out of the shack, bopped the guard on the head with a rock so that he wouldn't wake up too soon, and headed down the mountain to the school.

The path was rough dirty, and by the time he got to class, he was dirty, had bloody feet, and was a mess. I asked him if his instructor questioned him about his strange appearance, and he said it was homecoming week, and evidently many strange things went on. One of the kidnappers later became a good friend.

A True, Previously Unpublished War Story

Larry was due for drafting, so he enlisted and reported to duty on February 6, 1941. There are many funny stories about this college graduate who had to take orders from reservist whom he called "pool hall willies." At one point, he went in to his commanding officer and said, "I quit!"-but as we all know, the Army doesn't put up with such nonsense.

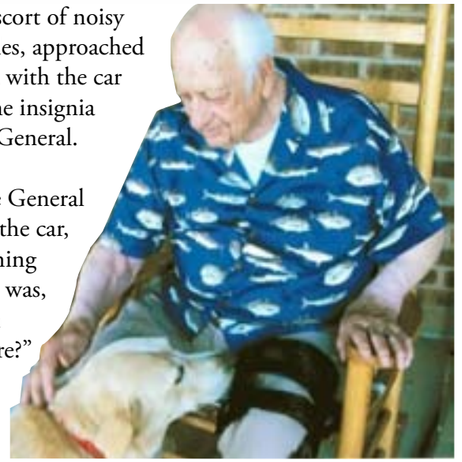
Anyway, along came WWII, and soon Larry was sent off to OCS. I wonder if you have heard the expression, "90-day wonders." That was what they called those classes of men they were training to be officers. The necessity of war caused their group to become "70-day wonders," working long days and no weekends, to prepare themselves for what was ahead. They shipped off to a destination unknown (now known as North Africa), and spent almost a year there moving from exotic place to exotic place. He traveled through Casablanca, the Cork Forest at Rabat, Mestaganum, Bizurti, Algeria. Ten months in North Africa, then across another body of water, the Mediterranean Sea, and on to Sicily.

Still heading north, they moved on to Italy, Naples, then on to Germany. At the end, when others were going home, Larry and his group of men were kept behind to rebuild the railroad yard in Rosenheim. The first train had to go through the yards before the men were allowed to come home. When the 401st Battalion first was in North Africa, they set up their tent city in a large barren area which had at one time been a race track. The tents were set up in proper order. One day, a commander car, complete

The Gleasons and Nagles in Colorado

with an escort of noisy motorcycles, approached the camp, with the car bearing the insignia flags of a General.

When the General go out of the car, the first thing he barked was, "Who's in charge here?"



Larry and his Good Friend Marilyn

Unfortunately, the senior officers had been sent to another location for a meeting, and an unlucky Lieutenant stepped forward.

They then proceeded to inspect the area, with the general pointing out important things like a tent cord not tight enough, etc. When the inspection was finished, the General said, "Tell your commanding officer I will be back in two days and these discrepancies will be taken care of." The poor Lieutenant replied, "I beg your pardon, Sir, but what is the General's name," The name? Patton!

(*Bet this is not a story you have heard ever among Patton stories.*) A footnote in history: Patton did not return!

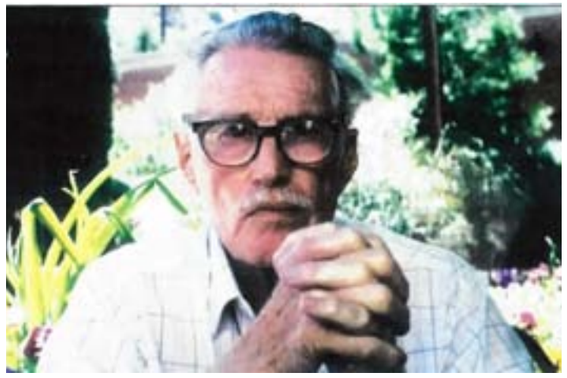
Some more notes on Hart and Larry.

Hart still has pretty good eyesight, and spends a great deal of his time working out in his beautiful flower beds that grow in abundance around his and Pal's cabin. He is active in their community and church, and keeps up a good correspondence with family and friends. Hart, by the way, is the one who wrote the great obituary on Jack Devoix for Gold Pan. Basically, he is a very healthy man, but the silicosis that developed when he was "down in the mines" has left with him with a continuing problem with pneumonia now in later years.

Larry is considered legally blind so although he manages around the house well (as long as I don't rearrange the furniture), he can no longer read or watch television. His hearing is impaired as well, so we just turn the sound up when he want to listen to things. He still enjoys cooking, and does a fantastic job of chopping up onions and celery to put in his two favorite recipes for spaghetti sauce and chili. Both of these recipes come from way back when!

Our last trip to the school was about four years ago. With the help of someone from the Alumni Office, we were able to locate and take out to lunch a great nephew of mine, Michael Cannady. I had never seen him before, but when he came out of his classroom, he was easy to spot—the very tall, handsome one! Needless to say, he was surprised to be taken out for lunch by an aunt he had never met.

Since (New Mexico Tech) is right between our house and where Heart and Pal live, I am promoting a trip for homecoming. It will all depend on how the men are doing at the time. I'm game to get behind the wheel and do the trip.



Hart Gleason

ALUMNUS RECALLS CAREER ADVENTURES BACK IN THE DAY

After a hitch in the Army Air Corps during and after World War II, George Doepel Jr. spent two years (1948-49) at Modesto (Calif.) Junior College. While there, he developed an interest in geology; and, having always wanting to be an engineer, he was accepted as a third-year petroleum engineering student at the then-New Mexico School of Mines. Upon graduation in the spring of 1952, he joined Chevron in Bakersfield, Calif., where he worked as a petroleum engineer for 19 years.

Now picture it: The summer of 1971, Tripoli, Libya. In the blistering, summer heat, Doepel arrives at the airport with his wife, four children and 17 suitcases to begin working as a senior reservoir engineer for American Overseas Petroleum (Chevron and Texaco), or API. Muammar Gaddafi had been in power less than two years, so things were moving along quite well, but it didn't last long.

By early 1974, Gaddafi was threatening to nationalize API and kick the Americans out. Fruitless negotiations went on for several months. By summer 1974, Doepel and company were packed and headed for Sumatra, Indonesia, to work for another Chevron/Texaco affiliate, Caltex Pacific Indonesia. There, he reclaimed the title of senior reservoir engineer, this time for Minas, the largest oil field in Southeast Asia at that time. "Life in the jungle was definitely a big change from the Sahara desert," Doepel said.

While vacationing stateside in 1977, Doepel was recruited by the Libyan Government Oil Co. to return to Tripoli as chief petroleum engineer. "When I left Tripoli the first time, I swore that I would never return. This proves that you should never say 'never'," he said. Occidental Petroleum, which was a partner in the Libyan operation, was sufficiently impressed with his work that they offered him the job of superintendent for northern Peru, located near the city of Talara. "This assignment proved to be rather hectic, starting with a border war between Peru and Ecuador," Doepel said. "The border location had been settled in the 1940's, but with the discovery of several large oil fields on the Peru side of the border, Ecuador felt they had gotten the short end of the stick.

George Doepul and the President of Peru, Fernando Belaunde Terry

"On Jan. 30, 1981, a large helicopter landed on the beach in front of my house. Two generals and an assortment of lesser officers came to my office and advised me that the armed forces of Ecuador were preparing to invade Peru and take the border oil fields. Then they informed me that 130 tanks, ammo and other supplies were en route from Lima, 600 miles to the south. Unfortunately they had no facilities at Talara to unload the equipment, nor did they have the trucks to move the tanks about 70 miles to the border.

"At this point, they informed me that they wanted me to unload the tanks and equipment and haul it to the border. When I asked what would happen if I refused, I was informed that they would confiscate our equipment at the harbor to unload tanks, then take our trucks and put their own drivers in them. I looked over at my transportation superintendent, and he had turned pale. The thought of turning over his beloved trucks loaded with tanks to a bunch of army recruits was simply more than he could bear.
"At this point, I became a reluctant warrior and agreed to carry out the assignment. In three days, we had completed the task. The Ecuadorians were observing the operation from fishing boats offshore. Once they witnessed the efficiency of the operation, the war was called off.

Several months later, Doepel was advised by the Lima office that the President of Peru, Fernando Belaunde Terry, wanted to tour the northern Peru operations. "I was asked to meet him at the Talara airport and conduct the tour," said Doepel. "We met and hit it off immediately. By the time we reached my car, we were on a first-name basis. Just as we were settling into the car (with two armed body guards in the back seat), a soldier came running up to my side and handed me a letter.

"My Spanish was limited, and when the President saw me laboring with the letter, he asked if he could read it for me. I handed it to him and he said that the Army wanted to give me a medal for my help in the border war. We spent the rest of the day touring the operations as well as the military bases on the border."

Doepel's overseas adventures ended at the close of 1985 when he retired from Occidental and, with his wife, moved to Beaverton, Ore. "Since then, we have enjoyed children, grandchildren, great-grandchildren and growing roses," he said.

I've included a few pictures from those golden days, just for history's sake. The best college I ever attended.

Tom Scanlan

1955-57 geophysics (declared major)

I was the assistant editor of Goldpan those years, Academic Leader Fall 55, Sophmore Student Council Representative 1957 (did not graduate from NMT; see below)

Graduated San Diego State University 1959, 62, 63 (AB, MA, AB)

Research Physicist at NRL and NEL, professor emeritus, Physics and Astronomy, Grossmont College

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Visit our main New Mexico Tech website where you can read stories on featured alumni, see updated event information, shop our alumni store, view digital versions of past and current Gold Pan issues, and much more. See for yourself and keep informed. ***http://www.nmt.edu/advancement***

student clubs

Since its founding, New Mexico Tech has had many student organizations. These clubs, societies, and other organizations have covered a variety of interests.

While many current clubs are related to professional organizations, there are several that are simply meant to bring students together. Some of these organizations are similar to clubs in Tech's history.

The student government, now known as the Student Association, was once the Student Council. This group consisted of class officers, different from the three branches seen today. Another long-existing organization is the student newspaper.

Student publications have been around for several decades. The newspaper has been called by three names: The Gold Pan, La Arrastre, and Paydirt. Additionally, The Porphyry (yearbook) has been produced sporadically. However, these are not the only organizations that have been around for a while.

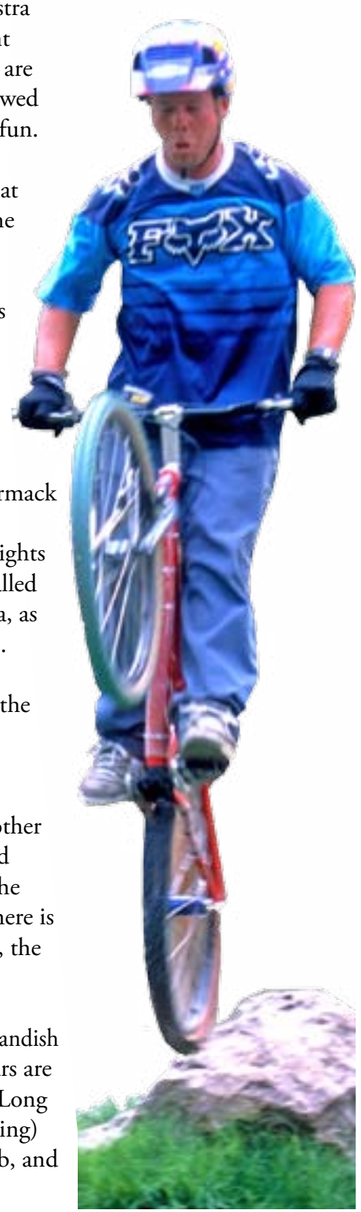
During the 1950s and 1960s, all women-organizations were also on campus. According to yearbooks from those times, the Dames' Club was an on-campus organization for women. According to Dr. Mary Ann Seagreaves, class of 1961, the women in this club were wives of students at Tech, but were not students themselves. Another all-women's organization was the Women's Club. Presently, there are two women organizations at Tech, the Society of Women Engineers, and Alpha Sigma Kappa – Women in Technical Studies. These organizations are focused on supporting female students. In years past, there were also organizations focused on adding excitement to academic life.

Some former organizations allowed students to express themselves through performance, including the Men's Chorus and the Dramatechs. The existence of these clubs differs from the current activities on campus. While Chamber Choir and Chamber Orchestra are still active, student theater performances are rare. Other clubs allowed students to just have fun.

A memorable club that existed at Tech was the Tech Yacht Club. According to Dr. Robert Cormack, this club once requested permission from Starkist to use Charley the Tuna as a mascot – it was denied. Professor Cormack also mentioned the Subatomic Particle Rights League, which was called the Stealth Force Beta, as having many exploits.

Dr. Bill Stone recalls the Mining Department having an active club that organized steam drilling contests. Another interesting club found in past yearbooks is the Bullfighting Club. There is also the nerd favorite, the Chess Club.

Some of the more outlandish clubs from recent years are the Bacon Club, the Long boarding (skateboarding) Club, the Waffle Club, and the Cigar Club.



how we got here

the presidents' series: stirling colgate

Dr. Stirling A. Colgate agreed to be interviewed over lunch for New Mexico Tech's Gold Pan alumni magazine – and for Gold Pan readers only.

Even before Colgate arrived at the Fidel Center for lunch, Dr. Dave Westpfahl, longtime chair of the Physics Department and a colleague of Colgate's, explained that the former Institute president spends his time on campus at two locations. His main haunt is the Dynamo Lab situated in a metal shed (albeit air-conditioned) behind Workman Center. Colgate's lab is filled with tall, intricate metal devices, what scientists call "fabricated" machinery. Colgate built the equipment with colleagues Joe Martinic, a Tech graduate who worked with the late Professor Charlie Moore and knows how to fix and build anything mechanical, and Jiahe Si, a postdoctoral fellow who has just been promoted to electrical engineering associate. Various undergraduate students have helped as well.

Colgate's second work area is the Dynamo Site, a World War II vintage Quonset hut located among the buildings and rock-studded fields. The Dynamo Site serves as the storage site for much of the "surplus" atmospheric research apparatus, where he's trying to build a dynamo that will explain the origin of the magnetic fields in stars and galaxies and intergalactic space. This humble site is near the scientific research laboratory known as the Energetic Materials Research and Testing Center (EMRTC), often called "the place where they blow things up."

On campus, often in consultation with other scientists, such as Westpfahl and Dr. Dave Raymond, Colgate continues to explore the single question he has pondered all of his life: "What makes the universe work?" Colgate was 13 or 14 when he realized that answering that question was to be his life's work.

"It was an epiphany the first time it happened," he said over lunch on a hot June afternoon. Colgate is easily recognizable by his emblematic short-brimmed oil-stained felt hat. Long before that moment, when he was

only 5 or 6 years old, Colgate's siblings and later his peers referred to him as "the professor" because, says Colgate, "I was always a nerd, never a jock."

Colgate was born in New York City and grew up in Morristown, N.J. After his parents were divorced when he was two, he lived in a number of places in the East traveling back and forth between his mother's and father's residences. His older brother Dick developed asthma in response to the emotional turmoil of that time, and in response to the asthma, his brother was sent West, to the Los Alamos Ranch School. With his brother having adjusted well to his new surroundings, young Stirling was sent there, too. Several years later, when

Stirling was around 16, the United States declared war on Germany and Japan, and the Los Alamos Ranch School was closed quite suddenly — following a visit by two gentleman, a "Mr. Smith" and a "Mr. Jones," one wearing a porkpie hat and the other a fedora.

During that visit, Colgate, who knew a thing or two about fusion, fission and explosions from reading the newspapers. He, along with a few other senior cohorts in his class, recognized the two men from photos in their physics text. "Mr. Smith" and "Mr. Jones" were none other than the famous nuclear physicists Earnest O. Lawrence and Robert Oppenheimer and their visit clearly meant they were going to build a nuclear bomb in Los Alamos.

"It was a no-brainer to realize that the fission ratio must then be two or greater and an explosive chain reaction was possible," quips Colgate.

Colgate is emphatic that this nomenclature be accurate: The weapon

produced on The Hill by the scientists and engineers and technicians who trekked to Los Alamos from the University of Chicago and other places is a nuclear bomb, and *not* an atomic bomb; which, Colgate said, "is just a scientific misnomer." That having been said, we can continue.

The history books tell us that the war effort forever changed Los Alamos, where Colgate and his wife, Rosie, still live. When not at the Dynamo Site or the laboratory housed outside Workman Center, Colgate can be found at the national laboratory that bears the name of the city in which it was built.

With high school not yet completed, Stirling returned to the East and enrolled at Cornell University when he was just 17.

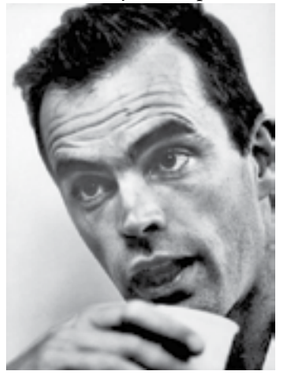
"Everything was speeded up because of the war," Colgate said. He spent two semesters at Cornell studying electrical engineering and some physics. "Despite having grades like a smart-ass nerd and before the Navy could get a hold of me to put me into the V-12 college program to become an 'officer and a gentlemen,' I joined the Merchant Marine. I had enough of privilege growing up, and I wanted to contribute to the war effort."

Of all the islands and ports-of-call Colgate encountered during his travels across the Pacific, including Eniwetok where later he helped test the country's largest bomb, the Bravo test, Colgate found the bay city of San Francisco most to his liking.

One day in the summer of 1945, aboard a sea-going tug pulling a giant dry-dock out to Eniwetok on the rolling waters of the Pacific, Colgate heard the voice of the ship's captain booming over the public address system. The United States had dropped an atomic bomb over Hiroshima and Nagasaki, and the war was over.

"I already knew they were building a nuclear bomb," Colgate said. "And I was expecting, secretly hoping, it would end the war."

Immediately the captain



how we got here
the presidents' series: stirling colgate

summoned the ship's electrician, the young sailor Colgate, who knew neither the ship's captain, nor any of the deck officers, to report to the mess hall and explain what this bomb business was all about.

"If you're a smart-ass kid, you are recognized from day one," Colgate said. "To this day, what I said then about a nuclear bomb, explaining fission and fusion and how a nuclear bomb works, would be classified information. I've always loved explosions."

It only made sense, then, that soon after the war Colgate returned to Cornell where he switched his major from electrical engineering to physics, and after three years as an undergraduate and three years as a graduate student, he earned his Ph.D. in physics in 1952.

"In those days, even after the bomb, there were few physicists who knew about neutrons and nuclei and gamma rays, and so I had my choice when it came to getting a job – doors were open everywhere," he said

Colgate gravitated to the University of California at Berkeley, then making the world's largest linear accelerator, the A-48. A half year later at the inception of a neighboring laboratory, now called Lawrence Livermore National Laboratory, Colgate was invited to join the fledgling counterpart to LANL.

"Instead of doing magnetic fusion, which is what I wanted to do, I was put in charge of the "fast" diagnostics (neutrons and gamma rays) for the Bravo test, on Bikini Atoll, the U.S.'s largest thermonuclear test with a yield of 15 megatons ," he said. Colgate was 27 or 28 at the time, very young for all this responsibility to be dropped in his lap. He said there were few Ph.D.'s with his background, such as his experience as an electrician in the Merchant Marines, a marine engineering license to operate seagoing ships, and a Ph.D. in measuring gamma-ray absorption coefficients.

"These measurements are still used by the Bureau of Standards," he adds, a hint that his experimental acumen was well-known to the higher-ups.

There was one particularly amusing part of this bomb test experiment involving a dozen two-mile-long vacuum pipe lines necessary to accurately view the device from far enough away to save the recording equipment from the expected blast.

"When six of us young physicists arrived in Bikini several months before the test, but after an immense effort by thousands working for the contractor Holmes and Narver, we found that the gamma rays from a radioactive test source wouldn't pass through the vacuum pipelines for a distance of two miles."

After a few of the "juvenile young scientists" straightened one pipe line using a special telescope, Colgate recalls being awakened that night by another still younger engineer, who showed him the corrections.
"I took one look, calculated the geometry, and said out loud so everyone in the tent could hear, 'Oh my God, they forgot that the earth is round!' " he said. For gamma rays to get through, the pipes had to

be straight, not level with the ground. The next day at a management meeting, Colgate reassured everyone that there would be no recriminations, but at the end he joked. "The one thing we young scientists would like is a small correction. To compensate for our hurt feelings about forgetting the earth is round, we're asking that the X-rated movies be turned back on."

Evidently protecting their young minds had been the excuse to turn off the X-rated movies. Both problems were indeed corrected with the result that the congressmen and admirals and the generals came "roaring in on their helicopters" every evening to join watching selections from the cache of X-rated movies Holmes and Narver had stashed away.

Men *will* be boys. History books will tell us that the hydrogen-bomb test on Bikini Island was, indeed, a gigantic, tragic, mushroom-cloud-shaped success (three times the expected yield).

Six years later after a stint in Geneva, Colgate was part of negotiations toward a treaty to ban nuclear weapons tests in space. Here our physicist/ engineer reported back to Edward Teller, the so-called father of the H-bomb, the then director of Lawrence Livermore Lab and once an invited speaker at Tech. In those Cold War years in the aftermath of the Bay of Pigs and an angry Nikita Khrushchev banging his shoe on a table in the United Nations building near Grand Central Station, then as now, Colgate states, "The question for humanity was: 'Is cooperation possible?'."

how we got here
the presidents' series: stirling colgate

Colgate knew it was possible because, in negotiations to detect each others possible secretly testing in space, the Russian scientists, all senior to Colgate, agreed to launch capable satellites that could "spy" on each other. Colgate convinced them by posing a question no one could answer. "What if a supernova goes off in the galaxy? How will we be sure it's not a nuke?" When Colgate returned to Livermore, Teller agreed to an inertial fusion program, now NIF, and the initiation of astrophysics at the Livermore lab.

To answer his own question, Colgate, with Dick White, used bomb computational codes to calculate how a supernova, a massive stellar explosion, might work. These calculations showed that neutrinos, ghostly, near mass-less particles, were vitally important to the explosion process. Serendipitously, a major experiment to detect neutrinos from the sun was underway, deep in the Homestake gold mine in South Dakota, where McGlaughlin was a director, a major owner and a regent of the University of California. He was also a close friend of Dr. Teller and a close friend of Thomas Cramer, potash

mining owner and engineer and then chairman of the New Mexico Tech Board of Regents. Tom was looking for a new President of Tech, because of the pending departure of its World War II-era president, Dr. E.J. Workman, who truly made N.M. Tech. Then guess what?

"Edward was tired of my constantly arguing with him at that stage, so he suggested me," Colgate deadpanned. "Actually, he was a very good friend." Between Teller and Thomas Cramer, Colgate succeeded Workman as the 10th president of New Mexico Tech. The year was 1965 and Stirling Colgate was 39 years old.

"It's a weird touch of irony," Colgate said, "that because of neutrinos I became president of Tech. On the other hand perhaps it was because Marx and Dotty Brooks were young UNM students during the war, living together in my mother's house, a small adobe on the UNM golf course, and I visited twice, once during the war, and once after leaving the Merchant Marine and the Pacific."

History reminds us that the Colgate years (1965-75) would have been eventful under any administrator – there was an unpopular war being waged in South Asia, the nation was still recovering from the assassination of its popular president and college campuses were boiling over with student unrest. Here at

New Mexico Tech, its new president was young, brilliant, and an active researcher who developed a strong rapport with its students, making him the right leader at the right place at the right time.

"How could Tech change fast enough, maintain a superlative academic standing and stay ahead"? Those were Colgate's concerns on arrival, especially when he found that the engineering students had to wear black suits and black shoes! When he argued for the first computer at Tech, an IBM 44, the State estimated the proposal to be 100 times the expected usage. Instead, the new machine was saturated with users in the first year.

The essence of change during the Colgate years were the "forums." Held once a month, they were free-for-all discussions between students, faculty, administrators and the president, where long-standing policies were rapidly changed and then some reversed again. "Very many students, faculty, and staff made this happen. A few who were overwhelmingly involved were Bill Hume, Belinda Cooke, Lucy Chavez, Candy Holtz, Marx Brooke, Mardi Hantosh, Virginia Marquez, John Gregg, Albert Petschek, Charley Moore, Charley Goshey, Jim O'Connor, Dick Gibson, Marvin Wilkening, Bob Cormak, and on and on and on," recalls Colgate, visibly nostalgic. Then Tom Cramer and his board had to approve. "I spent the other half of my time trying to understand everyone's research," Colgate said. "It was my job to understand their research, so I could argue for it, get people to support it," he said. "It was easier to get money in those days because of Sputnik, and I put a lot of energy into grants and contracts and research for Tech, because I felt that the research support of students was half their education." He spoke of his former scientific colleagues, the physicists Marx Brooke, Charlie Moore and Chester McKee; the paleontologist and geologists, Christina Balk and Rousseau Flower; mining engineers, Roshan Bahpu and George Griswold; and the exciting work going on at that time in atmospheric science, Earth science and mine engineering. That was in the days of oscilloscopes, slide rules and students calling the tower of Workman Center, the Tower of Babel.

Dr. David Westpfahl

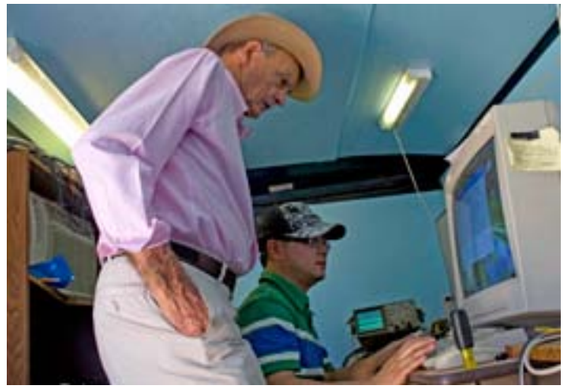
Suddenly Colgate lays down his fork and turns to Westpfahl to pose a question, one about the origin of galaxies and giant black holes. Westpfahl said: "I asked him, 'Stirling, are you aware that at the center of every large galaxy is a continuum source?' … that question, inspired by the research of Jason Speights, (a current Tech grad student with Westpfahl) and others at Los Alamos, prompted Colgate to fit yet another piece to the master puzzle.

"That's what life as a scientist is all about," he said. "It's testing nuclear bombs and research: *how does the universe work? Then what is the origin of humanity, and how to lead a university?*"

"The hardest part of being president of New Mexico Tech and all that came with it, was the balance between academia and creativity. A particularly poignant example was the question of whether course credit should be given for designing an adobe house," he said. The issue was raised by Albert Petschek, who represented the *intelligencia* of the faculty, and it was raised somewhat impertinently at that.

"Finding a definition of what constituted course credit was unquestioningly the most difficult thing for an administrator to deal with, especially when asked by the leading intellectual at the Institute. Finally, I suggested an algorithm that

how we got here
the presidents' series: stirling colgate



stipulated that a project had to have an *abstraction* to qualify for course credit, and the faculty went along with that."

The second issue was indicative of the times. One group of students was Vietnam veterans; others wanted peace at any cost. Of course, their differences were to be decided by a confrontation at the flag pole. Tech had a major role in supporting the testing of much of the nation's most advanced conventional armaments.

"There was set to be a big confrontation at the flag pole between veterans and the new age students. Yet right before that, here I was in the auditorium with 40 to 50 mining engineering alumni, the most conservative members of the mining industry and I had to describe to them that I had to go to the flagpole and moderate the anger," Colgate said. "Explaining this to a group of conservative members of the mining industry was not easy, nor was trying to quell their anger at all this uproar on campus." Colgate looked at the assembled alumni and said: "I hope none of you have a son or daughter at the flagpole," he continued, "but my job is to see that no one is hurt and no one was."

"Many, many students helped run the place," Colgate said. "Sixty percent of the students had jobs with Tech, and forty percent had jobs in their majors. That was the single most unique aspect of New Mexico Tech. Tech is the greatest nerd institution of the country, and even of the world. One of my many mistakes was not supporting Porphyry, (the yearbook) from day one. It took three years for me to learn."

History will tell us that four students were killed at Kent State University on May 4, 1970, midway through the tenure of the Stirling Colgate administration at New Mexico Tech; and that around that time, there was a confrontation at the site of a flagpole at Tech, a symbolic confrontation between tradition and change and what-comes-next.

Nowhere in history will you find any of these words. Stirling Colgate, during the 85th year of his life, agreed to share these memories with the fine alumni of New Mexico Tech and that is just what he did.

By Valerie Kimble/New Mexico Tech

where are they now?

Harley Kozushko

Kozushko finds his career path — and other alumni! —back East in the Beltway

For Harley Kozushko, life is good.

Since leaving New Mexico Tech in 2004 with a master's degree in computer science, the Socorro native has forged a career path with the U.S. Department of Defense, met and married a wonderful woman, and is now father to Grace, born last May.

His plate is, indeed, quite full.

"All I can say is that I have been abundantly blessed since being at Tech, and those blessings stemmed from Tech," Kozushko said.

Following graduation from Socorro High School in 1999, he matriculated to New Mexico Tech, and in May 2003 was among the elite graduates wearing an "I Did It in Four Years" pin, earning a bachelor's in computer science, with honors, and a minor in history.

A year later, Kozushko was the Computer Science and Engineering Department graduate student of the year, and the first to enroll in the Scholarships for Service (SFS) program, with high honors to boot. SFS, funded by the National Science Foundation, provides "full-ride" scholarships to qualifying students in the field of federal information assurance. As such, Kozushko was eligible to apply for a position with the Department of Defense, which hired him right out of grad school. Today, Harley is a Secure System Designer in Washington, D.C. Having been born and reared in a small town, Kozushko had no idea what to expect when he moved to the eastern seaboard.

However, he found it easy to make friends with people who, like himself, "were from somewhere else," and were open to exploring the myriad options on the East Coast not available to land-locked desert dwellers. "I joined a sail-boating group, took up mountain biking and kayaking, and really enjoyed everything the outdoors had to offer," Kozushko said.

"I also met a wonderful girl who I instantly fell in love with," he said. "Lynn and I got married two years ago and on May 20 welcomed a beautiful baby girl, Grace, into our family."

Kozushko also has an extended family of New Mexico Tech alumni who

work inside the Beltway. "There are about a dozen Tech graduates that live in the area," Kozushko said. "We have our New Mexico get-togethers a few times a year."

These transplanted Techies were critical in helping the newcomer adjust to life in

the East, Kozushko said. "One of my best friends, George Schmaltz, moved to the area a few years ago, and lived about a mile away for a number of years," Kozushko said. "It was awesome to have a New Mexico community here in the east."

The move proved to be fruitful professionally as well.

"Working with the government was one of the best decisions of my life," Kozushko said. "I've come to appreciate how supportive management is. "If you have an idea to improve something, or design a solution for something, management

bends over backwards to help you accomplish your goals," he continued. After several years working in the government sector, Kozushko discovered a career path in technical leadership – a tight fit with his skill set and personal philosophy.

"It's about facing technical challenges and problems and leading a team to design and build solutions for those problems, and tests a number of skills: budgeting, social skills, organizational skills, and especially technical skills," he said.

"Technical leadership extends to partnering with a number of other organizations to share and improve your solutions, so everyone can benefit and improve the system," Kozushko said.

His job in information security assurance is such

that friends back home kid Kozushko about being one of the "men in black." With his parents, Phil and Virginia Kozushko, living in Socorro, Harley has returned to Tech for 49ers several times.

"I go out to lunch with my former professors and with my dad, walk all over campus, and have really enjoyed seeing it transform," he said. Kozushko gives credit to his SFS mentor, Dr. Lorie Liebrock, chair of the Computer Science and Engineering Department at Tech, and new Dean of Graduate Studies; and his father, Phil Kozushko, who earned his degrees in mining engineering from New Mexico Tech; and, until recently, served as an adjunct faculty member with its Mineral Engineering Department. "Dr. Liebrock, for me; and my dad, for the Mineral Engineering Department, are true testaments to how the faculty and staff at Tech are very committed to the students, and go above and beyond, every day, to help the students enjoy their career paths and ensure that they are successful in them," Kozushko said.

He likens his experience at Tech with that of Schmaltz, profiled in the last issue of Gold Pan. "For both George and me, it all started with the education we received at Tech," Kozushko said. "I really enjoyed going to Tech, and it truly was the gateway to an abundant life on the East Coast for me, and for a number of other alumni."

These days, Harley Kozushko is enjoying the new chapter in his life, that of being a husband and a father.

"Now I'm providing for Lynn and the baby, and am excited to be able to pass on and teach Grace Catholicism, all the sports and recreation that Lynn and I love, the cooking and social hosting, the reading, the engineering and problem-solving, and the happiness that I have such a desire to share with her," he said.

"I'm working to allow Lynn to be the mother she wants to be, and for Grace to experience the fullness of life. And it is the best feeling in the world."

By Valerie Kimble/New Mexico Tech

1930's

Earl Herkenhoff (Mining, Class of 1936) will be inducted into the American Mining Hall of Fame at the Mining Foundation of the Southwest annual Hall of Fame Banquet and Fund raiser in December in Tucson. Herkenhoff, who passed away in 2002, was honored with the Distinguished Service Award by the Alumni Association in May 2011. He and his family have been very generous to New Mexico Tech over the years, donating more than $1 million to the Mineral Engineering Department.

Bill Hawes (Class of 1960) recently retired. He now serves as governor of the Mining Foundation of the Southwest and also as a member of the Foundation's Hall of Fame Committee.

Fritz Wolff (B.S. in Mining Engineering, 1960) is a published author. In 2005, the University of Oklahoma Press published "*A Room for the Summer; Adventure, Misadventure and Seduction in the Mines of the Coeur d'Alene*." Wolff's book is set during his New Mexico Tech summer jobs underground at the famous Bunker Hill mine in Idaho. Wolff recently put together a website devoted to the book which some other alumni might enjoy if interested in a tale of the Old West in the late 1950s. http://www.fritzwolffbooks.com

Donald G. Strachan (M.S. in Geology, 1976) was named project advisor and geologist for Jet Gold Corp., a Vancouver-based mining company. Strachan will principally work on the company's Big Hammer Gold discovery located in Terrace, British Columbia, according to company president Brad J. Moynes.

Strachan earned a master's in geology from New Mexico Tech in 1976. He has more than 35 years as an economic geologist and hydro geologist and has experience from all corners of the globe. Mr. Strachan earned a bachelor's in geology in 1973 from California State University-Fresno before coming to Tech. In late 2009, Strachan visited the Big Hammer property and prepared an internal report on the gold and tellurium potential. A Jet Gold press release said that Strachan's work inspired the company to move forward vigorously to the next stage of development. Moynes said, "We welcome Donald with his vast expertise and are confident that he will assist us in moving Jet Gold to the next level."

Brian Arkell (M.S. in Economic Geology, 1983) was hired as senior vice president of exploration and corporate development with Rio Novo Gold Inc. In late June, the company announced the hiring of Arkell, who is a 23-year veteran of Newmont Mining Corp., and has worked in the mining industry for 28 years. His extensive experience in planning and executing exploration and mine development programs establishes him as a valuable addition to the Rio Novo team, the company said.

Arkell most recently held the position of director of geology for the Newmont-owned Hope Bay Mining Co., where he led a successful effort to triple exploration activities at the Hope Bay Project, an Archean greenstone-type property. Prior to this, he held a variety of senior geology positions at Newmont in Peru, New Zealand, Indonesia and the United States.

Arkell earned his bachelor's in geological engineering from the University of Maryland before coming to Tech.

Arkell has extensive reserve development experience, including management of geology, modeling, metallurgy and geotechnical programs.

He has participated in numerous mine development plans, from scoping studies through to definitive feasibility studies, for open pit and underground gold projects.

He has led strategic planning initiatives in South America, New Zealand, and Canada, developing pipelines of long-term growth projects.
Rio Novo Gold CEO David Beatty said, "We are delighted that a geologist and manager with Brian's depth of knowledge, skills, and international experience has decided to join Rio Novo as a key senior member of our management team to lead our drilling, exploration, and corporate development initiatives."
Mr. Arkell will assume his new role with Rio Novo in early July. He will focus on drilling and exploration programs at the Company's Almas and Guaranta X1 projects in Brazil, and

growing the resource at its newly acquired, 952,000 Inferred oz., Toldafria property, in central Colombia.

Rio Novo is a gold mining company primarily active in Brazil, with a new acquisition in Colombia.

Robert M. Specter (M.S. in Geology, 1984) was recently named vice president for administrative affairs – the chief fiscal and administrative officer – at the University of Maryland.

Specter has more than 25 years of senior leadership experience in higher education, most recently as business leader of an extensive redevelopment project at the University of Delaware, and the institution's vice president for finance. He will begin at Maryland on September 1.

Specter will report directly to the university president, and one of his first tasks will be development of the university's budget for FY 2013. His longer-term responsibilities will include collaboration with community and business leaders on revitalizing neighborhoods near campus to provide a more vibrant and safe environment.

"Rob is well-positioned to lead the transformation of our campus environment for the benefit of students, faculty, staff and the broader community," says President Loh. "A world-class research university must have a world-class college town. Rob brings the experience and skills to realize our strategic vision and lead our wide-ranging administrative operations. We're thrilled to welcome him."

Currently, Specter serves as chief business officer for redevelopment of a 272-acre former Chrysler Corporation facility that will allow expansion of Delaware's physical campus over the next century. Specter also played a major role in developing a utility-scale wind turbine facility for the University of Delaware's Lewes campus. The turbine produces more than enough electricity to power the entire campus, and generates a revenue stream dedicated to support wind power research.

Previously, Specter served as vice president for administration and finance at the City University of New York's Baruch College, and was the senior financial and administrative officer at Oregon State University and Montana State. He was also chief financial officer for the State of Iowa Board of Regents.

Specter serves as a volunteer with many professional and community organizations including the Eastern Association of College and University Business Officers, the U.S. Green Building Council and the United Way.

He earned his bachelor's degree in geoscience at the University of Rochester, a master's degree in geology at the New Mexico Institute of Mining and Technology, and an M.B.A. at Arizona State University's W. P. Carey School of Business.
"I'm delighted by this opportunity to contribute to the growth and improvement of the university," Specter said. "Maryland's impressive faculty is second to none, and it deserves the best facilities and services to support it.
I look forward to making a lasting contribution to the success of the university as part of President Loh's leadership team, and to being a strong partner with the community in economic revitalization."

Jim Healy (B.S. in Mining Engineering in 1985) joins Luna Gold Corp. as general manager of the Aurizona Gold Mine.
An experienced mining engineer, Healy has worked extensively in engineering and project management with BHP Billiton, INCO, Aura Minerals and JDS Engineering and Mining in the United States, Canada, Australia, Indonesia,

Marlon McDougall (B.S. in Petroleum, 1988) was recently named Chief Operating Officer of Pengrowth Energy Corp. The Calgary, Alberta-based company said McDougall will begin work August 8, 2011.

McDougall has an extensive background in the oil and gas industry with over 30 years of experience working in a variety of engineering disciplines. His most recent roles have been Chief Operating Officer for an intermediate-size company, and as a senior operations executive at Northrock Resources Ltd. Previously, he has held positions with increasing levels of authority at Suncor, Halliburton and ADECO Drilling and Engineering. McDougall has a solid understanding of conventional and unconventional resource-style play opportunities and a proven track record of creating significant shareholder value, according to the Pengrowth press release.
McDougall earned a bachelor's in petroleum engineering from the New Mexico Tech, and a petroleum technology certificate in production from the Southern Alberta Institute of Technology.

"I am very pleased to have Marlon join Pengrowth. His appointment rounds out our senior leadership team. We're ready to meet the challenges and opportunities of our increasingly complex business," said Derek Evans, President and CEO.

Pengrowth Energy Corp. is an oil and gas company active in the Western Canadian Sedimentary Basin. Pengrowth's operations include production from conventional and unconventional assets, evenly balanced between liquids and natural gas. Future growth opportunities include the development of unconventional oil and natural gas production, heavy oil, shale gas and coal-bed methane as well as the addition of production through acquisition. Pengrowth's shares trade on the Toronto Stock Exchange under the symbol "PGF" and on the New York Stock Exchange under the symbol "PGH."

Tech graduate Dr. Anne Ortiz (B.S. in Basic Science, 1993) was hired in April as psychiatrist at Plains Regional Medical Center in Clovis, N.M.
Dr. Ortiz most recently was a psychiatrist at Artesia General Hospital, where she worked with acute patients.

After completing her bachelor's at New Mexico Tech, Dr. Ortiz earned her medical degree from the University of New Mexico. Plains Regional administrator Hoyt Skabelund said the hiring of Ortiz represents the hospitals continued commitment to building a medical infrastructure for behavioral health services in Clovis.

Tom McGuire (B.S. in Mineral Engineering, 1994) has joined Toronto-based IC Potash Corp. as Director of Technical Services, Mining Engineering at the company's operation near Carlsbad, N.M.

Sidney Himmel, President and CEO of IC Potash said, "We welcome Tom to the IC Potash management team. We highly value their vast geological and mining knowledge of New Mexico. His technical experience complements our existing potash mining leadership and supports our goal to be the next international SOP producer."

McGuire has worked in the potash industry for major New Mexico potash producers in the Carlsbad area for 17 years as a senior mine engineer and chief mine engineer.

H. Kent Haugerud (M.S. in Environmental Engineering, 1995) has been appointed to an eight-year term on the board of The Stars and Stripes Foundation. Haugerud, of Flagstaff, Ariz., has been employed by the state of Arizona as an Environmental Engineer since 1998. His duties include engineering plan design, issuance of construction permits, all phases of enforcement, as well as inspection responsibilities for Title V air quality matters, wastewater treatment plants, municipal public water facilities and storm water permitted facilities in Northern Arizona.

Prior to joining the Arizona Department of Environmental Quality, Haugerud worked with the Dept. of Defense at Luke Air Force Base and at Otis Air Force Base in Massachusetts on the largest Department of Defense Superfund site. Earlier, while employed at the Los Alamos National Laboratory, he designed a computer model for the drinking water system for that facility and trained other engineers to utilize the concept.

The Stars and Stripes Foundation, an offshoot of the *Stars and Stripes* newspaper, is a charitable organization dedicated to the betterment of those serving in the military and veterans. All contributions go to benefit recipients.

Kirk Jones (B.S. in Chemistry, 1996 and M.S. in Hydrology, 1999) has recently joined Newmont Mining in Denver, as a Senior Business Analyst in its Discovery and Development Division where he works to complete valuations of new and ongoing mining projects around the world.
After graduating from New Mexico Tech, Jones worked for several years in the environmental industry with some of the large

environmental engineering firms in the Denver area in groundwater modeling and project management on many environmental reclamation projects.

In 2004, he joined Pintail Biotechnology Laboratories, is a biotech firm in Golden, Colo. that has developed a proprietary technology for application in the natural resources industry for the enhanced extraction of precious metals and petroleum resources using biotechnology. The technology is also used for mine lands restoration and contaminate destruction. Kirk served as the Director of Technology at Pintail for seven years where he was instrumental in developing the company's suite of technologies into commercial and licensable formats.

While working with Pintail, Kirk completed his M.B.A. with an emphasis in Finance at Regis University in Denver.

"My real interests have always be in mining and I am very excited to be a part of Newmont and have the opportunity to continue my career within the arena of mine finance and mineral economics," Jones said. "New Mexico Tech provided me with a strong education that has helped me achieve my goals today."

Elizabeth Ball (B.S. in Biology in 2004; M.S. in Biology in 2006) has accepted an upper division science teaching position at Menaul School in Albuquerque.

Elizabeth has been a certified teacher in New Mexico for four years. She has taught secondary science courses for three years – two years at the high school level and one year at the middle school level – in Roswell, where she taught Biology, Chemistry, Physical Science, and Earth and Space Science.

In addition to her teaching duties, Elizabeth sponsored extracurricular school activities such as Math, Engineering and Science Achievement (MESA) Club, Science Olympiad, Upward Bound, and various community service projects.

On the Menaul website, Elizabeth said that she feels that the most rewarding component of being an educator is the continual opportunity to help students learn and grow.

Aside from teaching, Elizabeth enjoys running, snowboarding, and most other outdoor activities. She is very excited to be in Albuquerque and to be a part of Menaul School.

Tyson Gobble (B.S. in Management in 2006, M.S. in Engineering Management in 2009) graduated from UNM School of Law in May 2011. He now works for Titus and Murphy in Farmington, N.M.

Adam Manzanares (B.S. in Computer Science, 2006) is now a post-doc fellow at Los Alamos National Laboratory. He works under the mentorship of Meghan Wingate and John Bent, both in the High Performance Computing Division. Manzanares grew up in northern New Mexico and attended the New Mexico Tech while working on a BS in computer science. From 2002 to 2007, Manzanares worked as a student intern at Los Alamos and had the opportunity to work on wireless network security and integration. In the spring of 2010, he received his Ph.D. in computer science from Auburn University, where he concentrated on energy-efficient storage systems. His research interests include high-performance and parallel computing, storage systems, and computer science education.

As a Metropolis Fellow, Manzanares is working to determine how a parallel log-structured file system will fit into an exascale input/output (I/O) stack and what improvements PLFS will require to operate at this extreme scale of computing.

Talysa Camille Otero Ogas (B.S. in Biology, 2010) and **Kalanakila Kamuela Jay Hoover** are engaged to marry.

The couple met at the New Mexico Institute of Mining and Technology, where Hoover studied explosives engineering and mechanical engineering. Ogas majored in biology and minored in chemistry. The two will continue their education at the University of Hawaii at Hilo. A July wedding is planned.

Ogas is the daughter of Michael and Teresa Ogas of Los Lunas. Hoover is the son of Gary and Jacqui Hoover of Paaulio, Hawaii.

Betty Reynolds, who served as library director of the Skeen Library at the New Mexico Tech from 1981 to 1998, passed away at her home in Deming on April 22, 2011. She received a bachelor's in Library Science/Social Science from Northern Illinois University, a master's in Librarianship from University of Denver, and an M.B.A. from University of Missouri-Kansas City. She was active in various library organizations and served as secretary of the New Mexico Library Association, and represented the Tech Library in the New Mexico Consortium of Academic Libraries and New Mexico Library Services Alliances. She also belonged to the Friends of the Socorro Public Library and served as a trustee at the Socorro Public Library and Hillsboro Community Library.

Anne (Rittenhouse) Briley
December 31, 1955 -
November 3, 2010
Anne Rittenhouse grew up among bookshelves, ghost towns, and historians of New Mexico. Her father, Jack Rittenhouse, was a rare book dealer, an editor for the University of New Mexico Press, and wrote the "*Guide Book for Highway 66*" in 1946. Anne became a humble believer in Jesus while at New Mexico Tech **(A.A. in Psychology, 1976)** and helped with the Mustard Seed Coffeehouse beneath Brown Hall on campus. She worked in the Biology department on a project with diabetic hamsters (weighing, giving injections and taking lab notes).

In 1975, she married **Harry Briley (Bachelor's in Computer Science, 1976)**. At the wedding, a long-time chemistry professor remarked that despite her youth, this marriage would last. She moved to California in 1976 and completed a bachelor's in sociology at Cal State Hayward in 1979.

Beginning in 1977, Anne worked at the Emergency Fund Center, Livermore Crisis Hot-Line, and became a founding board member of Tri-Valley Haven for Battered Women in Livermore. At her memorial service, another board member recalled that the much older women who started the shelter, had significant doubts about Anne's credentials as a 20-year-old married woman and they testily grilled her. She won them over and became their spokesperson. She worked seven years with the State Compensation Insurance Fund as a procedural analyst in San Francisco, and attended classes at Fuller Theological Seminary. She left both willingly to foster-adopt a sibling pair of children lost in the system.

She participated in significant life events including Match-2 prison visitation, Lay Witness Missions coordination, spiritual growth weekend retreats (Marriage Encounter, Cursillo, Kairos), and lastly three American Cancer Relay for Life rallies as a three-year breast cancer survivor. Anne's decline started in 2005 with numerous falls, anemia, and reduction of kidney function. From age 9, she had been a Type 1 diabetic (akin to putting sand in your motor oil). Hospitalized since January 2009, she needed skilled nursing by August. The nurses called her "their angel." She was a cooperative patient and encouraged the staff whenever she was alert. After over a year, a sharp decline qualified her for Hospice care during October. She was rarely in pain. She died peaceably without medication and slid safely into home in her sleep. Anne was almost 55 and is buried in Livermore. Anne is survived by her mother, Charlotte Rittenhouse, her husband Harry of 35 years, daughter Karen, with two grandchildren, and son James.

Harry Briley notes: "Since we had planned back in 2007 for both our funeral and cemetery needs, the expected anxiety of those decisions did <u>not</u> occur. I am <u>so</u> grateful that we jointly made these decisions years ago."

alumni receptions

past alumni receptions

Since the beginning of this year, the New Mexico Tech Office for Advancement has been traveling the country hosting alumni Receptions. We have had the great pleasure of meeting our distinguished alumni and sharing the good news of New Mexico Tech. Here is a list of cities where we have hosted receptions.

Midland, TX
Phoenix, AZ
Houston, TX
San Diego, CA
China Lake, CA
San Jose, CA
Seattle, WA
Elko, NV
Denver, CO
Dallas, TX
Tucson, AZ
Princeton, NJ

We will be going to several more cities in the coming year and plan to return to several cities visited next year. Keep an eye out for an e-mail and/or postcard letting you know where and when we will be in your area. We look forward to meeting more alumni and giving you the opportunity to reconnect with campus and meet fellow alumni in your area.

New Jersey

Seattle

'80's

'90's

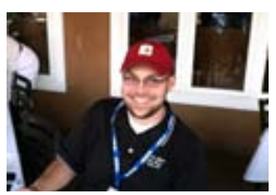
'00's

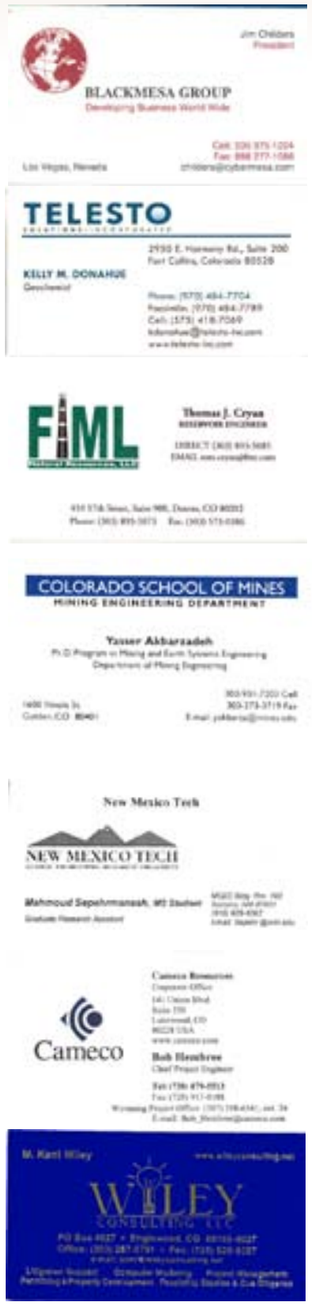
Tucson

Dallas

Elko

Albuquerque





Socorro

Thursday, October 27, 2011
Alexandria, VA Reception
Place: Hard Times Cafe
1404 King Street
Alexandria, VA 22314
Time: 6:00-8:00pm

Friday, October 28, 2011
Bethesda, MD Reception
Place: Hard Times Cafe
4920 Delray Ave
Bethesda, MD 20814
Time: 6:00pm-8:00pm

Monday, October 31, 2011
Denver, CO Reception
Place: Rock Bottom
Brewery Downtown
1001 16th St. # 100
Denver, CO 80265-0100
Time: 6:00-9:00pm

Wednesday, November 2, 2011
San Antonio/Austin, TX
Reception
Place: Embassy Suites
7750 Briaridge,
San Antonio, TX 78230
Time: 6:30pm-8:30pm

Tuesday, November 8, 2011
Reno, NV Reception
Place: Brew Brothers
Eldorado Hotel
Reno, NV
Time: 6:00pm-8:00pm

Thursday, November 10, 2011
Las Vegas, NV Reception
Place: Grind Burger Bar
and Lounge
360 E. Tropicana
Las Vegas, NV 89169
Time: 6:00pm-8:00pm

Friday, November 11, 2011
Chicago, IL Reception
Place: Cactus Bar and Grill
404 South Wells
Chicago, IL 6067
Time: 6:00pm-8:00pm

GOLDEN REUNION ALUMNI EVENT

May 13, 2011

James Brooke

James Brooke attended high school in Dallas, Texas and spent his first two college years at the University of Texas at Arlington where he studied general engineering. After two years, he decided to look around for other schools for metallurgy, came across New Mexico Tech and thought, *Why not?* "Who knew what I was getting into!" he said.

So Brooke completed a Bachelor of Science degree at NMT in two years. At that time, Geology was a requirement for all students; and, because Brooke had never taken that course, he ended up taking five labs for each semester he was here. How did he ever accomplish that feat? "I didn't drink at the Cap more than once a week (ha!) and I didn't participate in intramural sports," he said. He recalls that there were less than a dozen coeds on campus at the time. He scoffs at a question asking about his social life. "You're busy studying!" he said. "How can you pay any attention to anything else?" Still, among the lasting memories from that era were "the terrific dances they had on campus and downtown." He also recalls a little Mexican restaurant where he ate every Sunday, that day being the only one the cafeteria on campus was closed. Tostados were 75 cents, and a dinner plate was a buck and a quarter, enough food, and hot enough, "that it was all I could do to drive home and crawl into bed for a couple of hours," he said.

Just like today's Tech students, those of 50 years ago were required to take Physics. Said Brooke wryly: "I learned to calculate infinite-plate capacitance," a skill extraneous to his chosen field of engineering. Armed with a degree in Metallurgical Engineering from New Mexico Tech, Brooke started graduate classes at the University of British Columbia, went to work for a while, and then was awarded a fellowship to the Royal School of Mines, part of the University of London, where he completed a Ph.D. in Mineral Engineering. His career in the extractive industries took him to Zambia, and then back to the states where in 1973 he joined Westinghouse Electric Corp. This was a new venture to produce yellowcake by in-situ leaching.

Brooke was transferred to the Denver office where he led the project to develop yellowcake production as a by product of copper leaching. Following the dramatic price drops for uranium, oil, and coal, he moved to Stearns-Roger and then went into business for himself. "I changed careers and industries at least four times," Brooke said. "You can do that with a good education." He wound up his career working at DOE's Savannah River Site in South Carolina in high level nuclear operations. He retired in 2004. These days, Brooke's hobby is scuba diving to do fish population surveys.

Dennis "Doc" Stanley

"Doc" Stanley is as close as the New Mexico Tech Class of 1961 is going to get to a homegrown alumnus. The Clovis native made his way here in 1957, as a member of the first cooperative scholarship class at New Mexico Tech, whereby students worked half-time and went to school half-time so they could pay their own way to a degree. The old gym had a little pool behind it, no lifeguard, folks didn't lock their doors, the library was never closed and

two barracks were joined to form a cafeteria. He married his high school sweetheart, Jean, during the semester between his sophomore and junior years, in January 1959. Jean was elected to the 49ers Court her first year on campus. Back then, the Dames Club was open to student and faculty wives who, when their husbands graduated, presented the wives with a PHT degree for Putting Hubby Through. Jean recalls some of its members: Sallie Smith, Ann Hume, Ruby Wilkening, Alice Sanford, Dorothy Brook and Jean Stanton. Doc, in turn, has fond

memories of Dr. Marvin Wilkening, who became a close friend as well as an advisor as Dennis earned both his B.S. and Masters degrees in Physics.

"Where else can you play golf with the president of the college?" asked Stanley, explaining that among his golf partners way back then was none other than Dr. E.J. Workman, the post-WWII president who designed the first nine holes of the New Mexico Tech Golf Course. Nor was it unusual for students to be invited to dine with faculty in their own homes.

After earning his Master's, it was off to Ireland, where Dennis earned his Ph.D., also in Physics, and where over their five years there the Stanleys made many friends and lasting memories. They eventually returned to Socorro and New Mexico Tech, where Doc spent four years as a member of the Tech faculty. But his greatest influence on the community of Socorro awaited him down the road and up the hill: Doc Stanley remains one of the most revered teachers in the annals of Socorro High School, where he taught science and mathematics for 23 years, starting in 1972, and coached girls golf and basketball, and boys basketball and baseball for more than 20 years, leading the Lady Warriors to four straight state titles in golf in the 1980s.

Granddaughter Laura Stanley graduated from New Mexico Tech in May 2010, making her the first of a third generation of Stanleys to call the school their Alma Mater: Laura's parents, Mike and Meri, are both NMT grads; as are an uncle and aunt, Matt and Anne Stanley. Laura's brother, Brian, is on track to graduate from Tech in May 2012. Doc and Jean's daughter, Margaret Stanley, has led the SHS girls golf team to five straight state titles. The Stanleys have six grandchildren total. These days, Doc has a new career, that of a gemstone artist. He and Jean are planning their 12th trip to Australia "to dig in the dirt."

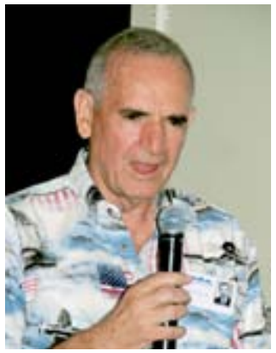
Kenneth Fagan

Ken Fagan, who grew up in New Jersey, arrived on the campus of New Mexico Tech by way of Paonia, Colo., as a married man and an Air Force veteran of the Korean War. An interest in petroleum drew him to the Socorro campus, where he left with a B.S. in Petroleum Engineering, and memories of carefree times in the Capitol Bar. His wife, Marge, worked for Martin Speare in the bookstore and library during her husband's student days.

His first job was with Kerr-McGee, a company that recruited on campus. Fagan thought he was going to work in Oklahoma, but wound up in Morgan City, Louisiana, the first of many cities he called home during his career. "You had to be mobile if you were in the petroleum field," said Fagan, who is Vice President of W&T Offshore in Houston, Texas. He plans to retire later this year. Ken and Marge no longer walk the sidewalks of campus, but they have left their mark on the college through a scholarship they established for petroleum students at New Mexico Tech.

Jack Cook

While Jack Cook was growing up in Aztec, NM, a small city in one of the most prolific gas producing regions in the country, he couldn't help but notice the company cars driven by industry employees, and the fine steaks he saw them being served. He worked in the field for several years even before graduating from Aztec High School, and even then thought the petroleum field "looked pretty promising." With these images in mind, Cook headed to New Mexico Tech, one of seven Aztec colleagues in the freshman class of 1957 – and the only one to survive – earning a degree in petroleum engineering in 1961. Meanwhile, a fellow named Tom Herd had set Jack up on a blind date with a pretty UNM coed named Christine Lumpkins, and they married and had their first child before Jack left



Tech. Some alumni might remember Chris from her days working as a receptionist at Workman Center.

Cook recalled that it took "a year, maybe a year and a half," but he did eventually learn how to study, and how to survive the academic life that is New Mexico Tech.

Jack joined United Producing Company in Liberal, Kansas following graduation in June of 1961. Ashland Oil purchased the Company and he was transferred to Oklahoma City in January 1965. In January of 1967, he joined Okmar Oil Company in Wichita, Kansas. In January 1970, Jack went to work for Tenneco Oil Company in Denver, Colo. January always seems like a good time to embark on a new experience, so in January 1972, knowing his next move was to Houston, Texas, and not wanting to raise a family in the big city (the Cook family by then included five children) he and Chris decided it was time to establish permanent roots in one location and elected to go in business for themselves in Farmington, N.M. This was returning home to where he started his career in the oil fields at the age of 16, working as a roughneck on drilling rigs. Jack spent the next 15 years building a contract operating company that consisted of a consulting engineering firm, roustabout crews, hot oil units, three drilling rigs, and the operation of 2800 gas wells with all segments of the company combined requiring approximately 300 employees. Jack left the oil and gas industry after the sale of the last portion of the business in 1992. Not ready for retirement, he embarked on a new career and challenge by purchasing a pawn shop in Farmington and expanding it into a minority financial center, where he still works in the business today with his youngest son.

Epilogue: Jack and Chris were married for 50 years lacking three days with her death occurring on Jan. 26, 2010. They have five children, 10 grandchildren and three great-grandchildren, all beginning at New Mexico Tech.

Squire Boone Seagraves

Squire Boone Seagraves, a Kentuckian by birth, ended up graduating from high school in Deming, N.M. From there, he entered the cooperative program at New Mexico Tech, and recalls that all co-op students at that time took the same courses for their first two years. He remembers the big dances for 49ers and St. Pat's, but concedes that life at Tech was pretty much "nose to the grindstone." *Pretty much.* You see, he met and married a mathematics major and fellow co-op student, Miss Mary Ann Blymn, in 1960, the semester between their junior and senior years.

When Boone Seagraves graduated from New Mexico Tech in 1961, armed with a degree in Physics, "Jobs were hard to come by, and so I did a lot of looking," he said. As it turned out, Boone found his first job with the Physical Sciences Laboratory (PSL) at New Mexico State University, where he worked on rocket flight simulation, a field that in 1963 found him in Ft. Churchill, Canada, his first trip outside the United States. Eventually he returned to the southwest, first as a radar data analyst at White Sands Missile Range, and then with El Paso Natural Gas Co. in El Paso. From there, it was back to PSL installing telemeters in missiles, and then off to Greece. In January 1988, he was part of a crew that launched the first high-altitude balloon to fly for three days over Antarctica, perhaps the crowning achievement of his professional career.

Boone shared a table at the Golden Reunion dinner on May 13, 2011 at Macey Center with his wife, Mary Ann, and with Rose Mary Owen, also a member of the Class of 1961 and a friend of Mary Ann's from Hobbs. Let's join them now.

Rose Mary Owen and Mary Ann Seagraves

It was no coincidence that of the seven females to enroll at New Mexico Tech in 1957, the only two to graduate were seated side by side at the Golden Reunion dinner. Rose Mary Jarboe and Mary Ann Blymn had known each other growing up in Hobbs, N.M. back in the 1950s, and had shared interests in science and mathematics. Both also were raised by single mothers "under strict financial

conditions," having lost their fathers early – Rose Mary at age six, and Mary Ann at 13. Their mothers strongly encouraged their children to pursue higher educations. Mary Ann matriculated at the small college in Socorro on June 2, 1957, and graduated with a B.S. in Mathematics with a minor in Physics (with high honors) on June 2, 1961. Rose Mary's degree was in Physics (with honors).

Her father, Ben W. Jarboe, was a onetime President of the Board of Regents at the-then New Mexico School of Mines, and Rose Mary had heard a lot about the school since she was a small child. A neighbor, Jim Theriac, a petroleum engineer who graduated from the School of Mines, even offered to pay for Rose Mary's education. "Hobbs was a good community that way," she said with a smile. "Many people helped me and kept me feeling optimistic about my future, and that continued at Socorro."

"That class made a lot of changes at the school, for whatever reason," said Mary Ann. "For one thing, we were the first co-op class to graduate. And many of our classmates were Korean War veterans." The New Mexico Tech student of 50 years ago had little more than a handful of majors from which to choose, and tuition was only $55 per semester, meaning a thrifty student could earn a college degree for around $500 per year – and a darn good one, at that. "We were very lucky," said Rose Mary. "Most of the students at that time were in the 95th percentile of their high school classes." Mary Ann worked for Dr. Cassidy, and later for Dr. Workman himself, while Rose Mary was assigned to assist fellow physicist Dr. Marx Brook.

"Every afternoon, when the clouds would come up, I had to climb to the top of the tower, where it was my job to take notes," she said. The tower was equipped with two special cameras**.** Another part of Rose Mary's job was to reach out over the precipice of the tower to position the cameras, and she took pride in not being excluded from doing a slightly risky task. During the winter, she labeled film from these cameras, and from the Kerr Cell camera, with observations taken at the time of each lightning bolt. The Kerr Cell Camera was on a track on the roof of the building, below the tower, and captured events measured in thousandths of a second. A stepped leader from the cloud to the ground could be seen on film.

Mary Ann said that both of her parents stressed the importance of education. Her mother had a degree in English, a subject she taught in the Hobbs public schools, along with having established the library at Hobbs Junior High. "I love libraries to this day," said Mary Ann, who went on to earn a Ph.D. in Atmospheric Sciences from Colorado State University in 1984.

There was some town-and-gown friction in those days; but for the most part, the college and city communities meshed nicely. Rose Mary remembers her landlady, Bebe Gianera, a niece of the famed Elfego Baca, who drove the coed around town to show her homes that belonged to her siblings. Rose Mary was a guest at the Gianera Thanksgiving dinner one year, where her hostess served tamales, the first she had ever had at the traditional fall celebration.

Both women have vivid memories of a campus guard named Dave McDonald, known as Mac, who regaled students with his oft-repeated saga of being tossed off his ranch on what is now Stallion Range, home to creosote, lizards, toads and sagebrush – and to Ground Zero, where the world's first atomic bomb was detonated on July 16, 1945. Mac's onetime ranch house was, in fact, where the bomb was assembled, and where the powers-that-were prohibited Mac and his family to return, as the government had promised. And then there was Pearl Bowman, who worked at the canteen and gave students cherry trees to plant when they returned home. Many did.

"In 1957, girls attending classes in Weir Hall had to walk to the ladies' room in Brown Hall-- there wasn't one in Weir," recalled Rose Mary. "A year or two later, we talked about that in front of Mr. Robert Jeffries, our art teacher, and he took up the issue and got a women's restroom built under the stairs near the entrance to Weir Hall."

Alice Wadley, who was about 90, was the housemother in those days. "She was a sturdy old New Mexico girl from Quemado who wore beautiful clothes, put on careful makeup every day, and walked down the hill to the dining hall," Rose Mary said.

"Usually someone, often Dr. Hume, would give her a ride back up, but she could get back up the hill on her own if she had to. I loved her stories. When our washing machine kept breaking down, she would reminisce about the time 'the pump broke down and Pop Wadley had to send to Midland for a man who told him it just needed to be leveled.' Finally, the repairman leveled our washing machine when he replaced some parts, and it *did* quit breaking all the time," Rose Mary continued. "She retired while we were there."

A word about scholarships: "Not only were they recognition, but many of us who weren't co-op students were supported by scholarships and student jobs, and it's very important to keep the importance of scholarships in front of people," said Rose Mary. "My high school counselor and my mother encouraged me to apply for scholarships, and helped me figure out what to say (I was 16 then and not too sure how to navigate these things). Dr. Workman also explained to us how to apply and what information was important to include," she said.

Rose Mary returned to Hobbs after graduation, taught mathematics briefly, moved on to west Texas, where she taught physics, mathematics, and electronics, and then to the University of Texas at Austin where she earned a Master's Degree in Mathematics. She wrote a thesis in the area of what is now called combinatorics, a theoretical branch of mathematics frequently used in computer science, a field where Rose Mary found a home for the next 20 years, working on projects in the oil industry, finance, engineering, and semiconductor manufacturing. Beginning in 1997, she attended ASU as graduate student for a few years, studying graph theory, combinatorial optimization, and Ramsey theory, a branch of mathematics that studies the conditions under which order must appear. Rose Mary is currently a contractor at IBM in capacity planning, working from the Arizona home she shares with a grandson. She has four children and six grandchildren. "One of the most interesting parts of my life was when I lived in Socorro," she said in closing.

Meanwhile, during Boone's search for a job, Mary Ann was having their first son. Boone found a job with the PSL while Mary Ann earned a Master's Degree in Mathematics from NMSU and gave birth to a second son. You've heard the adage, the couple that works on rocket flight simulation together stays together, and this was true in the case of the Seagraves, except she worked as a mathematical data analyst for the government at WSMR, and he worked as a contractor at PSL. Mary Ann eventually moved into the research area, and Uncle Sam paid her way to a Ph.D. at Colorado State.

Mary Ann went on to work as a meteorologist, "And then I made a mistake," she said. "They asked me to go into management, and I did, for five years." About that time, a lot of military bases were closing, so Mary Ann took an early buy-out, and Boone retired shortly after. They followed a son and grandchildren to Colorado, where they celebrated their 50th wedding anniversary in summer 2010.

John Vigil

John Vigil was one of eight members of the Class of 1961 to graduate with a B.S. Degree in Physics (with highest honors). He went on to earn a Master's Degree in Nuclear Engineering from UNM in 1963 before joining the graduate thesis program at Los Alamos National Laboratory (LANL), culminating with a Ph.D. in nuclear

engineering in 1966. He remained at LANL for 36 years, first writing computer programs for the study of nuclear reactors, and then taking on technical line management positions. He was then "drafted" into Human Resources management. Of that move, Vigil would only say it was "challenging," but it did not make use of his technical training. This prompted him to leave that post and join the director's staff, where he provided technical assistance to the director and three of his associate directors. Subsequently, he helped run the Laboratory Directed Research and Development Program which funds small research projects in disciplines supportive of the laboratory's mission.

He retired at the age of 60, a dozen years ago, and with his wife, Elizabeth, moved to Albuquerque where three of their four children and four grandchildren live. "I had a long list of what I wanted to do when I retired, but eventually most things went by the wayside," John said. For example, "I had always wanted to play the guitar, and took a class to learn how." But Vigil found that his classmates – "a lot of young kids" – had that fine finger dexterity of youth he himself had outgrown. So he dropped out. These days, he works in the garden, does a lot of reading (historical works are a favorite), and enjoys his grandchildren. "I'm very happy with the education I got at New Mexico Tech," Vigil said. "It gave me a solid foundation for further education in graduate school and performance on the job."

Edward Jolly

Ed Jolly said he was offered a job with the explosives division at LANL because of two factors: He had a degree from New Mexico Tech in Physics; and when he had worked with Dr. Alan Sanford as an undergraduate, "I once placed some dynamite in a hole." That experience led to his work on testing nuclear weapon components in Los Alamos and Nevada for 11 years. He later worked for

11 years on the design and operation of a facility with eight, large carbon dioxide (CO_2) lasers that did not, however, lead to practical laser fusion.

Jolly then joined a project to build a giant x-ray machine to test components of nuclear weapons in Los Alamos. He was the project manager for 11 years until retiring from LANL in 1994. Jolly calls himself an outdoor guy, an understatement for a man who frequently skis, hikes and rides a mountain bike. He went to Nepal with one of his sons, and with the other traversed Alaska's Mt. McKinley, the highest mountain peak in North America.

James Hulsey

Job prospects in geophysics were "grim" when James Hulsey graduated from New Mexico Tech; so he joined the college workforce as a surveyor in building the winding road up to Magdalena Peak where the Langmuir Laboratory for Atmospheric Research was to be built in 1963 near the summit of 10,783-ft. South Baldy Peak. That first year, "We were stopped by snow in February," said Hulsey, who soon after joined his Tech comrade,

Boone Seagraves, at the Physical Science Laboratory at NMSU. Hulsey started as an assistant physicist in rocket telemetry and went on to work on a variety of tasks. He wound up working on a Navy contract at WSMR testing surface-to-air missiles, a task he spent 22 years on. He then moved into management and onto the NMSU campus itself where he spent the last four years of his career as Manager of the Engineering Division of PSL, and also as Program Manager of NASA's large balloon program operating from Palestine, Texas.

Hulsey retired in 1998 after a career spanning 36 ½ years at NMSU. He remains in Las Cruces where he is a member of the Doña Ana County Historical Society and the county's Archaeological Society. He spends as much time as possible fly-fishing.

impromptu reunion

Ronald Brimhall

Ron Brimhall sports a snappy crew cut and a full beard these days, but recalls when his facial whiskers earned him the title of "Scroungiest Beard" in the freshman class during a 49ers weekend. For the record, Jack Cook won "Best Beard" that year. Said Brimhall, "Life, has been a real hoot."

A degree in Petroleum Engineering from New Mexico Tech was his ticket to the oil fields of west Texas, and a Master's Degree in Hydrology was his ticket to deeper understanding of fluid flow in the earth. During his career, Brimhall helped develop and market alternative fuels technology and worked in groundwater hydrology related problems in oil shale and in-situ gasification of coal Ron worked and traveled in the former Soviet Union during the time of the reign of Leonid Brezhnev and during the first oil crisis of the early 1970s. His work took him to Moscow, Uzbekistan, Komi ASSR and Siberia. A presentation he gave at a seminar on in-situ gasification of coal earned him an invite to join the faculty at Texas A&M in College Station in 1980, where in 1986 he was awarded a Ph.D. in Petroleum Engineering. After retiring from TAMU in 1997, he moved to Trinidad, Colo., where he earned a fourth degree, this one in gunsmithing with certification in advanced firearms repair.

Brimhall credits Professor Langdon Taylor with convincing him to come to New Mexico Tech and major in petroleum engineering. "One thing we learned was to think and solve problems that had never been solved before," Brimhall said. "There wasn't a day that I walked into my classroom that I didn't take a bit of Langdon Taylor with me." Brimhall then scanned the upper lobby of Macey Center and remarked that the Golden Reunion alumni comprised fully 550 people years of experience. "It's been a hoot," he said. "I've had fun."

informal alumni reunion field conference of PA geologists

At the Field Conference of Pennsylvania Geologists an

impromptu alumni reunion took place. Pictured: Ed Fry (90's), Tim Altares ('90), Pat Bowling ('87), Mike Bikerman ('56), and Rosie Behr ('99). Getting several geologists to all stand in one place, especially when rocks were present, proved to be quite a challenge!

I knew one guy was from Tech (of a group of 100). He said, "well, don't you know so-n-so is from Tech?" So we get that guy for the photo, and he says "we better not forget so-n-so" so we get the fourth, then my former co-workers sees us, asks what we are doing, and pipes up "well, don't forget so-n-so, he's from Tech too!" Funny such a large percentage of Techies so far from NM!

alumni awards

The New Mexico Tech Alumni Association presented awards annually to Tech graduates who are exceptional in their field and have promoted the university.

The Distinguished Service Awards

Awarded to Earl Herkenhoff and John Dowdle.

Earl Herkenhoff, ('36) was awarded the honor posthumously. Accepting on behalf of his family and estate was Gaye Herkenhoff Dwyre.

Born in Socorro in 1915, Earl Herkenhoff literally grew up at New Mexico Tech. His family lived in the basement of Driscoll Hall for many years. His mother, Lillian, was the matriarch of the family and longtime employee at New Mexico Tech.

Earl Herkenhoff earned a degree in mining in 1936 and went on to establish an international reputation as a mining and metallurgical expert. He was a consultant in strategic metal deposits in many countries and his experience garnered him opportunities to work for the U.S. State Department and international corporations. He was a prolific inventor and researcher; he registered 15 patents related to mining operations and published numerous professional papers. In 1990, he received the Distinguished Alumnus Award from New Mexico Tech.

When he passed away in 2002, Mr. Herkenhoff's ashes were scattered over 'M' Mountain.

Before his passing, Earl established the Herkenhoff Endowment Fund, which provides direct support to the university's Mineral Engineering Department. Since 2002, the Endowment has been extremely generous to New Mexico Tech, contributing more than $1.4 million to the Mineral Engineering Department.

The Alumni Association is grateful to Mr. Herkenhoff and his family for their generosity and faithful support of the university

John Dowdle ('60).

A native of Deming, New Mexico, John was valedictorian of his high school class, then earned a bachelor's with highest honors in mathematics at Tech. After a one-year NSF fellowship at the University of North Carolina, John received another fellowship to study economics at Carnegie Mellon University in Pittsburgh.

John returned to his native New Mexico to start his career at Mountain States Telephone Company. After four years of climbing the ranks, John accepted a position with Booz, Allen & Hamilton in Dallas. After only four years in Dallas, John transferred to Chicago and become a vice president. Over the next 20 years, John made impressive accomplishments and worked for Booz Allen in the Middle East, Buenos Aires, Mexico City and back to Dallas. He also served two terms on the company's board of directors.

John retired from the company in 1998, but he didn't quit working. He joined Day & Zimmerman as president of the transportation construction division. After a second retirement in 2003, John started NODO Services, his own management consulting firm.

Last year, he organized the Class of 1960 reunion and was a guest speaker for the Management Department lecture series. He was president of the Santa Fez Shrine Club and a director of the Santa Fe Rotary Club. He also volunteers for Tax Aide, an AARP program to assist low-income senior citizens.

The Alumni Association honors Mr. Dowdle for his amazing career and continued service to New Mexico Tech.

The Distinguished Achievement Award

Awarded to ***Ted Wilton***('75).

Ted graduated from New Mexico Tech in 1975 with a bachelor's in geology. Since then, he has made quite a name for himself in the gold mining industry.

Just last December, Ted was named the vice president of exploration for the Victoria Gold Corp. in Elko, Nevada.

Ted has managed exploration programs, which have led to numerous significant gold discoveries, and much of his work has been focused on geology in Nevada. He also has extensive experience on the Tintina Gold belt in the Yukon.

Ted has been involved

Dr. Richard Chamberlin accepts the award for Ted Wilton

in exploration, pre-development and development programs and mine geology, including working as district exploration manager for Queenstake Resources USA at Jerritt Canyon, near Elko, Nevada.

He also worked for Kinross Gold Corp. as a group chief geologist responsible for technical mining supervision and global exploration projects.

Ted was previously technical services manager and chief geologist for Kinross at the Fort Knox gold mine in Alaska.

He has also served as managing director of Kinross Gold Australia, where he supervised gold exploration and pre-development programs primarily in Western Australia.

The New Mexico Tech Alumni Association would like to congratulate Ted Wilton on being named to the Distinguished Achievement Award of 2011.

Distinguished Researcher Award

Each year, Tech recognizes outstanding research and teaching by a faculty or staff member of the Institute. Dr. Van Romero, Vice President for Research and Economic Development, presented

the award to Dr. Bill Winn.

Dr. Bill Winn earned his bachelor's and his doctoral degrees at the University of California-Berkeley. He joined the physics faculty at New Mexico Tech in 1970. He achieved full professor in 1982 and became the Chairman of the Langmuir Laboratory in 1982 – a position he has held ever since.

Dr. Winn has many contributions to the study of lightning, atmospheric electrification and instrumentation over the past 40 years.

His nomination package for this award included support from scientists at the National Severe Storm Lab in Oklahoma, the University of Arizona and the National Center for Atmospheric Research in Colorado.

Dr. Winn developed and built a new sensing instrument that takes airborne measurements of electric fields and particle charges. That instrument has led to many important discoveries regarding lightning and electrification.

Over the decades, Dr. Winn has published numerous academic papers about atmospheric physics. As Langmuir Lab director, he has been a champion of scientific research.

Romero said that when he was an undergraduate student in the Physics Department in the mid-1970s, he took a class with Dr. Winn. Romero said he felt privileged to have learned from him ... and that he even passed the class!

This award consists of a certificate and a check for $1,500.

Distinguished Teaching Award

Dr. Peter Gerity, vice president for Academic Affairs, presented the Distinguished Teaching Award to Dr. Maggie Griffin Taylor.

Dr. Maggie Griffin Taylor has been teaching in the Communication, Liberal Arts and Social Sciences, or CLASS department, since 1991 and has gained the

respect and admiration of her students ever since. She has a very challenging task at New Mexico Tech – teaching liberal arts to scientists and engineers. From the nominations that students submitted, it is obvious that Dr. Griffin Taylor has consistently excelled at this daunting task

Dr. Griffin Taylor teaches philosophy and creative writing. She received her Ph.D. in English composition and rhetoric from Texas Tech in 2003.

Students nominated Dr. Griffin Taylor for her dedication to teaching and for showing interest in the welfare of students.

One student wrote, "Dr. Griffin makes English and Philosophy relevant and interesting to students who are usually scientists and engineers. For me, she is one of the best people I have met at Tech, and one of the professors who have made coming to Tech life changing."

Another student wrote that "she makes the material fun to learn instead of just writing notes on the board. In one of her classes she brought in Oreos to teach the students about the structure of paragraphs."

Student Association Awards

The Student Association presents awards to a faculty member, a staff member and a student each year at commencement.

The ***student award*** winner for 2011 is ***Alex Plonczak.*** Alex's interest and dedication to serving the student body at New Mexico Tech has been exemplary.

Alex serves as a Student Association Senator and was elected President Pro Tem. He has also held the position of public relations committee chair. This semester, he also took the position of Assistant Student Activities Officer, where he helped organize numerous activities for

the students, including planning and organizing Spring Fling activities.

Alex's involvement has not just been limited to Student Association activities. During his sophomore year, Alex served as a Resident Assistant in South Hall where he helped establish the first chapter of Greek life on the Tech Campus, the Kappa Sigma fraternity.

Alex has served as an officer for the Kappa Sigma Pi Tau Chapter and he has volunteered for school and community events, including many food drives and fundraisers that benefit the Socorro community. His initiative paved the way for the establishment of a second Greek chapter – the Alpha Sigma Kappa Sorority. For the new Sorority, he co-coordinated seminars on a variety of topics, such as conflict resolution.

Alex has also excelled academically. He is graduating with honors today with a bachelor's in mechanical engineering. Last year, he represented the American Society of Mechanical Engineers club at the HENAAC conference in Long Beach, California. He earned a third place trophy in College Bowl X.

The winner for the ***staff award*** this year is ***Dr. Dan Walsh***, associate vice president of research.

Dr. Walsh has been an advisor and mentor to the students involved in the new fraternity on campus, Kappa Sigma. He has taken numerous students under his wing and provided reassurance, guidance and friendship. He has gone out of his way to help students find campus employment, particularly at EMRTC and its subsidiaries.

Dr. Walsh is one of the friendliest and most genuine people you will meet anywhere. He truly cares about people, but especially students. He always listens, is an engaging person and has a great sense of humor. He is an excellent role model for all students on campus.

The winner for the ***faculty award*** is ***Dr. Jeff Altig*** of the chemistry department.

He came to New Mexico Tech in 2006 as a visiting professor and joined the Chemistry Department faculty in 2007. In his short time at New Mexico Tech, Dr. Jeff Altig has made a mark in the lives of students, in the lab and in the chemistry department.

Dr. Altig has earned the respect and adoration of the student body. This should have come as no surprise. Twenty years earlier, as a doctoral student at the University of Wisconsin, Dr. Altig won the Outstanding Teaching Assistant Award.

Virtually every student spends time in Dr. Altig's lab and everyone knows him. Two years ago, Dr.

Altig won the Distinguished Faculty Award. Students submitted nominations in record numbers, praising Dr. Altig for being an excellent instructor, an accessible mentor and an all-around good guy.

Chemistry students know that they can often find Dr. Altig in his office late into the evening, where he is willing to guide students in their chemistry work.

The Graduate Student Association Awards

recognizes those who have gone out of their way to help the graduate student community. This year, the GSA presented awards to three outstanding individuals – ***President Dr. Daniel H.*** Lopez, physics student ***Mike Herman*** and former GSA president ***Shasta Marrero.***

The GSA found itself in a financial mess at the beginning of this academic year; the organization needed a bailout plan. Since the feds were not about to help, ***Dr. Lopez*** stepped in. He was able to find institute funding to get the GSA back on track…and for that, the graduate students presented him with an award.

Mike Herman was the GSA Travel Grants Officer and a doctoral student in Atmospheric Physics. In addition to his graduate studies, Mike has done an amazing job of coordinating travel and distributing funds to students to attend conferences, symposia, and other academic and professional events.

Mike has also worked on our website, answered emails and, in general always gone above and beyond the call of duty.

Mike is stepping down as Travel grants Officer for the best of reasons: he and his wife, Saska, are expecting their first child in July and will no doubt have their hand full. He has actively recruited his own replacement to make a smooth transition.

Shasta Marrero, a PhD student in geology. Shasta has played a pivotal role in the GSA since 2005, including two years as President from 2007-2009.

Shasta has devoted countless hours of her time to GSA business including training incoming officers. She has been an excellent leader and the brains behind the operation. She is, for lack of a better title, the "GSA guru."

Up until she stepped down, Shasta did virtually everything that needed to be done to keep the GSA thriving and active. When I took over in January of this year, Shasta took, and still takes, the time to mentor me and pass on her vast knowledge of the GSA and how to lead a successful organization.

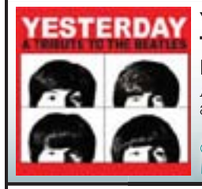
New Mexico Tech
Performing Arts Series

PERFORMING ARTS SERIES
(575) 835-5688 · nmtpas.org

TIME: 7:30pm, unless otherwise noted, doors open at 7:00pm. All seats are general admission.

LOCATION: Macey Center is on the NM Tech campus in Socorro, NM, wheelchair accessible.

TICKETS: NM Tech Cashier Window, Brownbilt Shoes and Western Wear, Sofia's Kitchen, and at the door. Prices are Adult/Senior/Youth. NMT full-time students: pick up your free ticket at the Bookstore. SAVE BIG with Subscriptions.



YESTERDAY
Tribute to the Beatles
Friday, September 23 $16/14/8
Authentic costumes, instruments and arrangements will take you back.

Rhythmic Circus in
"Feet Don't Fail Me Now"
Friday, January 27 $20/18/10
Rapid-fire tap dance with 7-piece R&B/Funk band and beat boxer.

Trinity Site, Enchanted Skies Party, VLA Tour, Octoberfest
Richter Uzur Duo
Friday, September 30 $16/14/8
Guitar-Cello Duo combines classical, rock and folk.

Valentine Dinner and Dance
Glenn Miller Orchestra
Tuesday, February 14 $20/18/10
One of the most popular big bands in the world today.

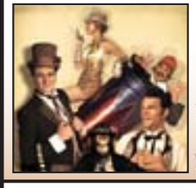
Golden Dragon Acrobats
Monday, October 17 $20/18/10
A show of breathtaking skill, spellbinding beauty, spectacular costumes and award-winning acrobatics.

Civil War Re-Enactment
McPeake & Cathie Ryan
Friday, February 24 $16/14/8
McPeake blends original Celtic songs and contemporary styles. Cathie Ryan brings crystalline vocals.

State Street Ballet's "Jungle Book"
Friday, November 4 $20/18/10
The classic tale with a modern and unique twist.

Science Fair and Trinity Site
ArcAttack
Friday, March 30 $16/14/8
The original singing tesla coils in an "electrifying show."

Festival of the Cranes
John Jorgenson Quintet
Friday, November 18 $16/14/8
Award winning guitarist in the Django Reinhardt style of gypsy jazz.



Handsome Little Devils in "Squirm Burpee Circus"
Friday, April 20 $16/14/8
A fantastical, melodramatic adventure, comedy and circus.

Flying J Wranglers Christmas
Friday, December 9 $16/14/8
Gorgeous western harmonies, fast & fun instrumentals & side splitting humor.

Mariachi Buenaventura with Reynaldo Maestas & Baila Baila
Friday, May 4 $16/14/8
New Mexico's female mariachi band with guest singer and ballet folklorico dancers.

Presidential Chamber Music Series

Free!

Hosted by NMSO Violist Willy Sucre

Dr. Daniel H. López
New Mexico Tech President

Monday, Sept. 19 String Quintets with La Catrina Quartet
Monday, Nov. 21 Piano Quartets
Monday, Jan. 23 String Quartets
Monday, Mar. 26 Oboe Quartets

NEW MEXICO TECH

Career Fair

Thursday, February 2nd, 2012
Fidel 3rd Floor
9 am-2:30 pm

www.nmt.edu/career-fair
careerservices@admin.nmt.edu
575.835.5060

Interviews and Information Sessions available around Career Fair

ALUMNI

We need external reviewers for papers submitted to, or presentations given, at our

Student Research Symposium

First Annual
STUDENT RESEARCH SYMPOSIUM

If you are interested in being an external reviewer, please contact Mary Dezember at
dezember@nmt.edu.

Middle and High School Science and Engineering Fair programs in New Mexico encourage inquisitive students to explore their environment in a systematic and logical manner. Participation in science fair stimulates student's interest in science and technology while simultaneously promoting the development of the life skills in communication, decision making, evaluation of alternative solutions, and critical thinking.

Recognition for contributions of knowledge and hard work in science fair contributes to the enthusiasm and excitement that develops as they become involved in their projects.

Judge

The New Mexico Science and Engineering Fair
March 31, 2012

Help support these efforts by judging. Please visit our website for details about requirements to serve as a judge. For additional information contact the NMSEF office at:

575-835-5678 or by email
sciencefair@admin.nmt.edu.
http://infohost.nmt.edu/~science/fair/Judge%20Info.htm

In the fall of 1911 students at the School of Mines decided to paint a huge"M" on Socorro Peak, laid out with a Brunton compass and a steel tape. According to Leroy Eide the "M" stood for "Mines, Minerals, and Midnight Oil, and you will burn much of the latter to become proficient in the former."

This year is the 100th anniversary of the "M", which is roughly 150 feet in height and 100-110 feet in width. The lines of the "M" are roughly 30 feet in width.

Registration (required) is at noon on Thursday, October 20th. Assemble at 9 a,m, at the athletic field for this historic "M" Mountain Run.

Register today at **paintm@nmt.edu.**

the last word

Ashleigh Mitchell

Perhaps it stands to reason that New Mexico Tech student Ashleigh Mitchell grew up on a ranch named for a mineral salt, a combination of chloride and sodium, because she is a rare, salt-of-the-earth individual in her own right.

Tequesquite Ranch, owned and operated by T.E. Mitchell & Son, Inc., a family corporation, is nestled in the northeastern corner of the state in Harding County, where Mitchell, 21, was one of four students to graduate from Mosquero High School in May of 2008.

If you have trouble visualizing a class of only four students; well, Mitchell had never even heard of New Mexico Tech before her Ag. teacher handed her a brochure for its Movers and Shakers summer camp in the science and engineering applications of explosive materials.

"I was raised with two brothers (one older, one younger)," Mitchell said. "I like anything that goes 'boom.'"

While she missed the camp, Mitchell arranged for a personal tour of the campus and its programs, and was sent to visit with Dr. Navid Mojtabai, longtime chair of New Mexico Tech's Mineral Engineering Department.

"He's the whole reason I'm here," she said.

Math and English had been her top subjects in high school, but her small school didn't offer the program depth students need to tackle Tech's core curriculum, and Mitchell found herself taking "catch-up" courses.

Mitchell is now in her fourth year of "the five- or six-year plan," she said with a laugh.

She likes that New Mexico Tech's small-school status allows her to know her professors personally, and vice versa.

"They know me enough to get after me about homework in the middle of campus!" she said. Ditto for Mojtabai, her faculty advisor. "He makes me feel like he's a parent," Mitchell said. "It's like when my dad gives me that look, and I feel like I've disappointed him. Navid strives to make sure that I'm doing my best work possible."

Mitchell is president of the Cooney Mining Club, and a member of the student chapter of SWE, the Society for Women Engineers, and the campus "tea club."

Even though she is taking 17 hours this semester, Ashleigh still finds time to have a social life.

"I'm a big believer in kicking back and relaxing with your friends," she said.

Ashleigh enjoys outdoor activities, and can be seen peddling a two-wheeled dinosaur, painted in John Deere—styled green and yellow. "I love that

thing," she said of the old-fashioned pedal bicycle. "That's my baby."

Mitchell also enjoys reading, as in real books ("I like pages."), especially mysteries and; like the Techie she is, sci-fi and fantasy. She currently is reading "Jane Eyre" and recently finished "Watership Down," the book she has reread the most.

After graduation, Mitchell plans to "get into coal," a field she believes is secure so far as future employment. The rich deposits of coal in Wyoming and Colorado are gold in her eyes.

And Ashleigh Mitchell is a bit of a rare mineral herself.

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