GOLD PAN

ALUMNI MAGAZINE • WINTER 2025

Women of NMT

NEW MEXICO TECH
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2024
Advancement & Alumni Relations Snapshot

Total Cash Gifts:

$5.33M

Largest Cash Gift:

$1.5M

Number of Gifts over $100K:

11

Total # of Donors:

653

% of 2024 Donors that were Alumni:

53%

Alumni Events:

38

Alumni in Attendance:

1,220

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NMT NEWS BRIEFS

NMT professor Dr. Snezna Rogelj and Dr. Danielle Turner co-invent major medical advancement

August 2024

Dr. Susan Bilek, professor in the Earth and Environmental Sciences department at New Mexico Tech, has been selected to serve as the president-elect of the Seismological Society of America (SSA). "It's an honor to be selected to serve the SSA," said Bilek. "This organization's mission is to advance seismology and related research, touching on earthquake hazards, as well as the science of explosion sources and other seismic events."

New Mexico Tech recently received its latest patent, US 12,029,728, titled "Small Molecules with Anti-Protozoan Activities," to treat tropical diseases. An international team of investigators — *led by NMT's Dr. Snezna Rogelj and then-NMT doctoral student Dr. Danielle Turner (B.S. and M.S. Biology, 2015 and 2017; Ph.D. Biotechnology, 2019), along with Dr. Ivy Hurwitz from University of New Mexico Center for Global Health, and Dr. Alexander V. Aksenov from North Caucasus Federal University in Russia* — developed a compound that adds a new dimension to previously NMT-patented anti-cancer properties, fights severe protozoan infections, and can be administered orally.

Mechanical Engineering Associate Professor Dr. Ashok Ghosh's presentation, "Sattwa-toyam – Creating New Fresh Water from Brackish and Sea Water," was one of three concepts, out of 14 applicants, to be awarded funding at the NM Research University Team Pitch Award Pilot Program.

September 2024

The NMT Playas Research and Training Center received a $495,630 Local Technical Assistance Grant for 2024 to develop a comprehensive master plan to spur economic growth in Hidalgo, Luna, and Grant Counties.

Materials and Metallurgical Engineering Assistant Professor Dr. Arjak Bhattacharjee is principal investigator on a $499,999 NSF grant supporting an innovative project to develop, in collaboration with Tufts, MIT, and IIT, next-generation additive manufacturing technologies for sustainable concrete production.

(left) Prof. Markus J. Buehler, MIT and Dr. Arjak Bhattacharjee, NMT; (right) Prof. David Kaplan, Tufts University, and Bhattacharjee.

Brandon Smith

October 2024

2024 Physics (with Atmospheric Physics Option) alum Brandon Smith's research assistance on "sprites," which are very brief lightning discharges occurring at the top of the atmosphere, helped him achieve two noteworthy accomplishments. First, he was accepted to Penn State to pursue a Ph.D. in electrical engineering, and second, he was the lead author of a study on the topic that was published in Geophysical Research Letters.

SL15, a suborbital spaceflight experiment designed and built by New Mexico Tech Mechanical Engineering students, in collaboration with New Mexico small business Immortal Data Inc., went into orbit on October 1 from Spaceport America, located near Truth or Consequences, N.M

November 2024

The New Mexico Bureau of Geology and Mineral Resources (NMBGMR) is among eight state geological surveys that recently signed a cooperative agreement to advance the understanding of the complex and varied geology of the Intermountain West region of the U.S. and bordering areas. NMBGMR and counterparts in Arizona, Colorado, Idaho, Montana, Nevada, Utah, and

CAMPUS NEWS

Dr. Alex Rinehart

Wyoming will collaborate on research projects, share data, and enhance communication efforts.

Dr. Alex Rinehart, an associate professor in Earth and Environmental Science at NMT, has received a prestigious Early Career Research Program award from the U.S. Dept. of Energy. The $920,000 grant, awarded for a five-year project, supports his pursuit to understand the complex mechanisms behind rock fracture. Rinehart and his fellow researchers aim to create a comprehensive framework that could unify the vast range of fracture phenomena, from the slow weathering of rocks to the violent breakage caused by asteroid impacts.

December 2024

Leading research universities, national laboratories, and community colleges in New Mexico have joined forces to establish the New Mexico Artificial Intelligence Consortium (NMAIC). The consortium signifies a collaborative effort to advance the development and application of artificial intelligence and machine learning across the state. The founding members of the NMAIC include New Mexico Tech, Los Alamos National Laboratory, Sandia National Laboratories, University of New Mexico, New Mexico State University, Central New Mexico Community College, and the New Mexico Consortium.

Recent NMT alumna Lizeth Anaya-Ojeda (B.S. Technical Communication, 2022), from Española, N.M., has joined the inaugural cohort of the Carnegie Mellon University Rales Fellows Program, which began in the fall semester 2024. Anaya-Ojeda is pursuing a master's degree in human-computer interaction.

Three New Mexico Tech students won prestigious scholarships from the American Society of Materials (ASM International). Chemistry master's student Nusrat Yeasmin earned first place in the graduate student category. Rachel Philips, a senior majoring in materials and metallurgical engineering, came in first in the undergraduate student category. Yeasmin and Philips work with Dr. Arjak Bhattacharjee, assistant professor in Materials and Metallurgical Engineering, on 3D printing for biomaterials and sustainability applications. Isabella Garcia, a junior majoring in materials and metallurgical engineering, won the scholarship as a runner-up in the undergraduate student category.

ASM International scholarship Awardees Nusrat Yeasmin, Rachel Philips, and Isabella Garcia

Dr. Nelia Dunbar

January 2025

New Mexico Bureau of Geology emerita director and state geologist Dr. Nelia Dunbar has been appointed by U.S. Secretary of the Interior Deb Haaland to serve on a national committee to establish a nationwide volcano early warning system. As described in its charter, the National Volcano Early Warning System advisory committee, convened by the U.S. Geological Survey and authorized under legislation passed in 2019, is tasked with ensuring that all active and potentially active volcanoes in the U.S. are monitored at levels that match the threats they pose.

The National Science Foundation has awarded $8 million to the state's EPSCoR (Established Program to Stimulate Competitive Research) to lead the Research Infrastructure Optimization for New Mexico project (RIO-NM), a transformative initiative connecting New Mexico's significant research resources with its network of Emerging Research Institutions. NMT's Cybersecurity Center of Excellence's Lorie Liebrock is co-investigator in efforts to strengthen the state's research ecosystem.

NEW MEXICO TECH APPOINTS TWO NEW VICE PRESIDENTS

Delilah Walsh

Dr. Lique Coolen

New Mexico Tech is ushering in a new chapter of leadership with two key appointments: Dr. Lique Coolen as Vice President of Research and Delilah Walsh as Vice President of Administration and Finance and Chief Financial Officer. Both individuals bring impressive backgrounds and extensive experience to their respective roles, reinforcing the university's commitment to excellence and innovation.

Dr. Coolen comes from Kent State University, where she has a remarkable scholarly and academic record, underscored by her dedication to advancing research in neurobiology and her proven leadership in developing interdisciplinary programs.

"Her experience as both an administrator and a faculty member reflects her commitment to fostering collaboration and innovation, making her an outstanding choice for this role," NMT President Amouzegar said.

Delilah Walsh will take over as Vice President of Administration and Finance/CFO in March. Walsh comes to NMT with a wealth of experience in public administration and financial management. She currently serves as the City Manager of Ketchikan and Ketchikan Public Utilities in Alaska, where she has managed diverse portfolios involving finance, utilities, and public services. Before her current role, Walsh held positions including Utilities Director for the City of Las Cruces and County Manager of Socorro. She is also an NMT alumna, holding a bachelor's degree in psychology and a master's in engineering management.

"Delilah distinguished herself from the impressive pool of finalists for her vast understanding of finance, a keen aptitude for administration, an abiding appreciation of collaboration, and an unwavering belief in transparency. Her prior portfolios have been large and varied, and that combination of breadth and depth also should serve NMT well," said President Amouzegar.

The outgoing VP of Research is Dr. Mike Doyle, a renowned expert in spatial biology; he will return to NMT's Biology Department faculty as a tenured full professor. Likewise, Dr. Van Romero, VP of Special Research Programs, will return as a tenured full professor in the Physics Department. The Office of Special Research Programs will re-merge with the Office of Research.

49ERS HOMECOMING WEEKEND

Mechanical Engineering Department students marching in the parade.

Dr. Frank Etscorn and Johann Lindig present Greg Miller with the trophy for the 2024 StorySlam.

2024's 49ers Homecoming Weekend at New Mexico Tech was a spectacular celebration, bringing together alumni, students, and the Socorro community under the captivating theme of Ancient Greece. The campus was alive with excitement as attendees embraced the festive spirit and enjoyed a variety of events: Paint the M, the parade, class reunion celebrations, StorySlam, rugby and soccer matches, and more.

New Mexico Tech's 49ers Homecoming Weekend remains a treasured tradition that fosters community and connection. Don't miss out on the 2025 celebration with the dynamic theme: Extinct? Never. 49ers Roar On! Save the dates: October 15-19, 2025!

Class of 1974 members Charley Dein, Dave Graham, Gary Parker, Ray Johnson, and Rick Corbitt sharing laughter, stories, and cherished memories at their 50th reunion dinner.

2024 ALUMNI AWARDS

One highlight of 49ers Homecoming Weekend is the presentation of the annual Alumni Awards, presented by the NMT Office for Advancement and Alumni Relations.

TECHIE OF THE YEAR

presented to an alum who has demonstrated service and loyalty to New Mexico Tech over many years

JEREMY EPSTEIN

(Computer Science, B.S. 1980)

was recently Assistant Director for Technologies and Privacy at the White House Office of Science and Technology (OSTP). He earned an M.S. in Computer Sciences from Purdue University in 1981, then spent much of his career as a researcher (Bell Labs and SRI International) and developer (Perkin Elmer, Network Associates, and WebMethods). In 2012 he began serving in government roles, first at the National Science Foundation, then DARPA, and then the White House. Jeremy has been a longtime supporter of the NMT Computer Science Department, and is grateful to professors Tom Nartker, Al Stavely, and Pat Orr, who provided the foundation for his career.

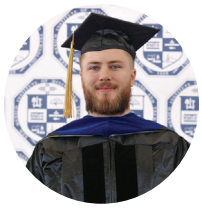
PHILANTHROPIST OF THE YEAR

recognizes an alum or friend for their longtime distinguished philanthropic contributions to support New Mexico Tech

MARK DONNELL, M.D.

earned his medical degree from Medical College of Wisconsin. He was an anesthesiologist in Silver City, NM, before he retired in 2016. Additionally, he served as a researcher and adjunct faculty in the Chemistry Division of the Western New Mexico University Natural Sciences department. In 2020 he established (and has donated more than $550,000 to) the Dr. Donnell Chemistry/Physics/Electrical Engineering Scholarship, benefitting NMT first-year students majoring in Chemistry, Chemical Engineering, Physics, or Electrical Engineering.

RISING STAR



presented to an alum who graduated within the last ten years, is excelling in their profession, and is an emerging leader in their field

BRENDEN HERKENHOFF

(Mechanical Engineering, B.S. 2021 and Ph.D. 2024)

led a senior-level NASA MINDS team (partnered with Southwest Indian Polytechnic) as an NMT undergrad in 2021. The joint "Moon Hoppers" team placed 2nd overall and their systems engineering paper and presentation placed 1st. His Ph.D. dissertation research focused on how birds' coloration affects their flight efficiency, with plans to develop applications for aircraft to improve their efficiency (patent pending). Brenden founded RadiantAero, LLC in 2023 to develop techniques and traits aimed at increasing lift potential and decreasing generated drag of aircraft as common energy-saving techniques using different color patterns on the wing's surface via solar radiation. He was named a "Top Innovator Under 25" by Albuquerque Business Journal in 2023, a "20 Twenties" nominee by Aviation Week in 2024, and was selected as the 2024 NMT Founders Award recipient, which is presented to the recipient of an advanced degree who has made an outstanding contribution to Tech through scholarship, research, and involvement in campus affairs.

NMT FACULTY-ALUMNI AMBASSADOR

honors a faculty member who has made outstanding contributions to the mission of the university through alumni relations, active research, educational innovation, and service to New Mexico Tech, Socorro, and the state of New Mexico

NELIA DUNBAR

(Geology, M.S. 1986 and Geochemistry, Ph.D., 1989)

began working at the New Mexico Bureau of Geology & Mineral Resources (NMBGMR) in 1992 as a Geochemist and NMT Adjunct Faculty Member. She became Director of NMBGMR and NM State Geologist in 2016. From March 2022 to January 2023 she served as NMT's Interim Vice President of Research. For 23 seasons she was an Antarctic Researcher, conducting volcanological field work, mapping recent volcanic rocks, and measuring volatile outputs of an active volcano. In January 2024 Nelia retired, becoming Emerita Researcher and State Geologist/Adjunct Faculty. For five years she served as a Co-Chair of the NMT comprehensive campaign, Launching Tech to New Heights, and since 2021 has been a New Mexico Tech Foundation board member. In 2024 she was selected as a Member of the National Volcano Early Warning System Advisory Committee. Her other awards include Geological Society of America Fellow (2014), the NMT Distinguished Research Award (2021), and Association of American State Geologists Distinguished Service Award (2024).

2024 49ERS EARTH & ENVIRONMENTAL SCIENCE FACULTY LEGACIES

On October 18, 2024, Earth & Environmental Science (E&S) alumni, faculty, and students gathered during 49ers to celebrate the memory of former faculty members Clay T. Smith, Dave Norman, Rob Bowman, and Al Sanford. Their legacies live on through endowed funds that have a lasting impact on students.

CLAY T. SMITH

Emeritus Professor John Wilson shared a memory of arriving at Tech to start his career at NMT and being invited to live with Clay and Sallie Smith. Professor Bill Chavez, faculty of Mineral Engineering and former student of Clay Smith, shared a story of doing fieldwork in one of Clay's classes where they were sent out to map. Clay promised his students he'd pick them up if the snow did not stop by the afternoon. Emeritus Professor Andy Campbell highlighted how Clay was the driving force for establishing an Economic Geology program with a strong field mapping and petrology focus at NMT. The Clay T. and Sallie Smith Scholarship supports E&ES undergraduate students to attend field school, which is an important capstone experience.

ROB BOWMAN

Emeritus Professor Fred Phillips gave a heartfelt account of Rob as a colleague and friend with whom he collaborated over many years developing new ideas and designing field experiments. Emeritus Professor John Wilson shared memories of working with Rob on tracers and designing field experiments and how instrumental Rob's contributions were in his field. Emeritus Professor Andy Campbell shared a funny story about Rob's quirky character: he repainted his car to a nice olive-green (image). A recent Bowman fund awardee studied agricultural drainage systems in New Mexico.

DAVE NORMAN

Dave was beloved by his colleagues and students, NMBGMR Emerita Director Nelia Dunbar stated. Dave was on her thesis committee and provided a lot of great feedback and advice. Emeritus Professor Andy Campbell noted Dave was famous for wearing colorful Ghanaian shirts and building up the first fluid inclusion laboratory at NMT. Emeritus Professor Kent Condie remembers that on long road trips to field areas in Canada, Dave used to make sure that there were enough glazed Krispy Kreme donuts available to drive through the night and stay awake. Dave also did a lot of work on environmental science in Ghana (image), where he worked on mitigation of arsenic pollution from artisanal gold mining. The plan is to increase the David Norman endowment to support a named student fellowship in Economic Geology with a strong field component for students who aim to have a career in the mineral industry.

AL SANFORD

Anecdotes of Al highlighted his inquisitive character that led to the discovery of the Socorro Magma Body and his important work on micro seismicity. The Dr. Allan R. Sanford Memorial Fellowship has supported students working on seismic swarms above the Socorro Magma body and on seismicity of bedload transport in alluvial channels and new applications of geophysics in surface processes and hydrology.

If you would like to donate to one of these funds, you can give online at **https://www.nmt.edu**

(click on GIVE at the top right, select "Other" from fund options, and enter the fund name in the Comments box), or contact **advancement@nmt.edu**.

FROM ROCKS AND ROCKETS TO PIXELS AND PARTICLES: STEM WOMEN ARE RISING By Jay Ann Cox

FEATURE

One hundred years ago, women in science, technology, engineering, and mathematics (STEM) were called pioneers, trailblazers, and pathfinders because there were so few of them. Today, they are called scientists, engineers, programmers–without the qualifier "woman"–and their influence, visibility, and work are an integral part of the STEM universe.

In this issue of Gold Pan, we revisit the "Women of Tech" issue from 2014 and boost the visibility of a new group of women who are making a difference in science and technology, but are also exemplary role models.

The full scope of women's representation in STEM is a concern since the gender gap still exists. UNESCO surveyed the status of that gap in a 2024 report (1) and issued a call to close the gender gap in science along three different pathways:

- Dismantle gender stereotypes and biases in science through increased visibility of role models.
- Open educational pathways for girls in science through innovative educational strategies.
- Create empowering workplace environments through policies and actions that promote equality.

UNESCO based those recommendations from data compiled from 2014-24 that shows:

- 1 in 3 scientists worldwide is a woman.
- 2/5th of STEM graduates are women (cumulatively—some fields have a higher percentage of female graduates).
- Upper echelons of science and engineering organizations and academies have only 12% women members.

The issue of the visibility and recognition of women's contributions in STEM also remains worrisome. As we have learned in the past 100 years, patriarchal academic and publishing systems tended to give credit, patents, authorship, etc. to the head of a department or project, lab director, or principal investigator, instead of to the scientific team who coded, calculated, titrated, and iterated for the innovations, inventions and discoveries–a group which often included significant work by women.

Further, in a March 2024 survey in the UK (2), women in STEM fields number more than 1 million, a number that has doubled in the past decade. However, women still comprise only 29% of the workforce in STEM. As for their visibility as leaders and innovators, only 8% of UK adults could name a woman in STEM, past or present, with significant contributions to the various fields.

Turning to the NMT campus, the number of women students since 2014 correlates with UNESCO's data. From 2015-2024, the number of full-time NMT students, both graduate and undergraduate, was between 28-32% women (3).

Although it's not complete parity with men in STEM, the 10-year trend for NMT women as full-time students is a solid foundation for growth in women's opportunities, visibility, achievement, and leadership in STEM. It can and should only go up with continued support for women students, such as the reestablishment of the Women's Center, innovative pathways for outreach and recruitment, and increasing the visibility of women role models in STEM, both in general and those from NMT.

The profiles in this edition speak to the progress and accomplishments NMT women are making in STEM as role models and leaders and as the next generation of contributors and leaders.

Narges Bagheri (Mechanical Engineering) and Zohreh Kazemi Motlagh (Mineral Engineering)

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NETWORKING, MENTORING, AND SUPPORTING

By Kathryn Bauer

The ability to take what they learned at New Mexico Tech and apply it to people's health and safety are what led two alumnae to value their NMT master's degrees in hydrology.

KATE RICHARDS

Richards and her husband Adam Barker with their two sons

earned an NMT master's degree in hydrology in 2007 and is now an Assistant Vice President of the Hydrogeology Division at WSP, a global engineering and professional services firm, in its Redmond, Washington, office.

"The most interesting classes I had were in hydrology," she said. "I picked something where I could have an impact."

She earned her undergraduate degree in environmental engineering and geology at Western Washington University in Bellingham. Richards came to NMT because of a suggestion from a hydrology professor who cited its ranking in the top five in the country for hydrology. An uncle who taught chemistry at NMT gave her a tour of the campus and a fully funded scholarship helped convince her to move to Socorro.

Once at NMT, Richards bonded with her 12-student hydrology cohort.

"We worked together and learned from each other," she said. "We were a pretty tight-knit group."

Like Agnew, Richards cites faculty members such as Dr. Fred Phillips and Dr. Glenn Spinelli for their assistance. She singles out her advisor, Dr. Rob Bowman, as an "amazing" influence on her academic success and future career as a hydrologist. Richards said Dr. Bowman met with her weekly and got her involved with research projects, including work with the New Mexico State Engineer's Office monitoring wells along the Rio Grande, taking water samples and checking water levels.

When she was nearing graduation, Dr. Bowman reached out to an NMT alum on the West Coast to connect Richards to a consulting job opportunity. Richards has paid it forward and has hired two NMT graduates.

She encourages current and future students to reach out to their alumni network and people working in the field for advice and leads on jobs in research, consulting, and at the national labs.

"Hydrogeologists are in demand," she said. "We're always looking to hire good people."

Richards with Jennifer Smith-Shearer sampling as part of their RA work

DIANE AGNEW

a Fort Lupton, CO, native, earned both her B.S. (Geology, 2003) and M.S. (Hydrology, 2006) at NMT. As the water rights program manager for the City of Albuquerque-Bernalillo County Water Authority, she oversees its water management strategy, ensuring an adequate and clean water supply. She's also worked as an environmental consultant and as a groundwater regulator for the New Mexico Environment Department.

Agnew says she has used academic knowledge and time management skills acquired at NMT as well as her technical analysis and writing skills throughout her career.

"I had challenging classes and a heavy workload," she said. "I had a pretty high capacity for stress."

Agnew said she wants STEM majors to know it's okay to have a meandering – not straight line – career path, and that women should hold doors open for other women by mentoring them and supporting their efforts to try new things.

Agnew and crew at geology field camp got to meet Patrick Swayze because they were stopped at a gate on his property to observe geologic features in the distance

INTERNATIONAL PATHS

By Kathryn Bauer

Catalina Vanegas

Vanessa Viterbo Christopherson

Dr. Navid Mojtabai and Vanegas at SME

Viterbo Christopherson and family on the day she became a US citizen

Their paths led them from South American countries to a small STEM campus in New Mexico to a large U.S.-based mining company. Both **Vanessa Viterbo Christopherson** and **Catalina Vanegas** earned master's degrees in mineral and mining engineering from New Mexico Tech, Viterbo Christopherson in 2007 and Vanegas in 2020. Both credit the knowledge, skills and confidence they acquired at NMT for the success they have found in the mining industry.

Viterbo Christopherson was born and raised in Belo Horizonte, a city in Minas Gerais state in Brazil. Even though she grew up in a mining area that produces gems and iron ore, she didn't have any family connection to the industry. A professor at Universidade Federal de Minas Gerais (UFMG), where she earned her undergraduate degree in mining engineering, encouraged her to participate in an exchange program between NMT's and UFMG's mineral engineering departments.

"I loved the environment of the Mining Engineering Department" at NMT, she said. "It was so welcoming."

That involvement in the exchange student program led her to the opportunity to obtain her master's degree at NMT with Dr. Virginia McLemore as her adviser.

A summer internship with ASARCO (Arizona Mining Co.) at a mine led to a job offer with Freeport-McMoRan, which mines for copper and molybdenum. She started at the Morenci Mine in Arizona and has now worked at five out of the nine active mines, including her current position as the mine manager for the Climax molybdenum operations. Molybdenum, also known as moly, is a versatile element with diverse applications in the chemical, engineering and petroleum industries.

Viterbo Christopherson said she chose mining engineering because she wanted to travel and live in remote places. Her profession also allows her to use her communications skills alongside her engineering knowledge to thrive in a male-dominated industry.

"I think what's important for me is to not let gender direct my path," she said. "I have been treated respectfully and given opportunities" over her 17 years with the company.

Viterbo Christopherson said, "I met the love of my life (husband Karl Christopherson, M.S. Mining Engineering, 2006) while attending NMT. We married in 2007 and now have two sons. Because we still have many ties to Socorro, we return to the area at least once a year to visit."

Another Mineral Engineering Department graduate, Catalina Vanegas grew up in Medellin, Colombia, one of four children in a family where math skills were emphasized. All four children are now engineers.

"My father introduced math in daily life, always asking math questions," she said.

As a woman seeking a mining engineering degree, Vanegas knew she needed to "give all I have with all my passion."

She had the opportunity and took it to move from Colombia to Socorro to work on her master's degree.

"People in Socorro are really good people," she said. "They have good hearts, are very kind and welcoming. I appreciate their kindness."

When she arrived in Socorro, Vanegas knew she needed opportunities to improve her English. Working in the greenhouse on campus and interacting with staff and students helped her build her communication skills.

NMT's professors, Vanegas said, also provided a very good foundation for her career with Freeport-McMoRan, where she works as a geomechanical engineer at the Henderson underground mine in Empire, Colorado, west of Denver, focusing on geological hazards and ensuring worker safety.

"They're extremely good people who want you to succeed," she said. "We are very well trained – and I really appreciate that."

Vanegas encourages students to do more than what they're asked for – volunteer and take extra classes.

"It shows employers that you can go above and beyond," she said. "Put your passion, commitment and discipline to work. You can accomplish anything."

AMONG THE STARS

By Kathryn Bauer

Two successful New Mexico Tech Physics Department alumnae, **Dr. Alison Peck** and **Dr. Viviana Rosero**, are forging their paths in astrophysics, thanks to the encouragement and assistance they received from colleagues, mentors, employers, and family members along the way – and their own determination and persistence.

Viviana Rosero

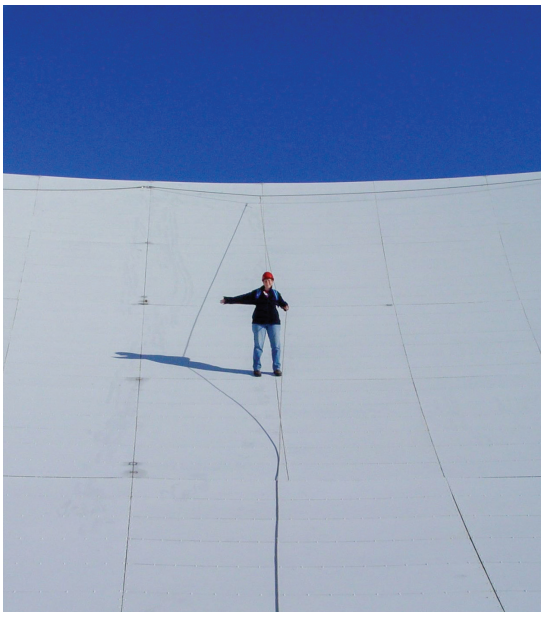
Alison Peck

Growing up in Barranquilla on the north coast of Colombia, South America, Dr. Viviana Rosero read about stars and black holes and spent time at a local planetarium. She knew she wanted to become both an astronomer and a mother someday. She earned her Ph.D. in Physics from New Mexico Tech in 2017, and she's now a radio astronomer and research scientist at the California Institute of Technology (Caltech) in Pasadena. Dr. Rosero currently lives in San Diego, CA, with her husband and two young children.

Rosero spent several years at the National Radio Astronomy Observatory (NRAO) in Socorro. Her current focus is on a different radio telescope project – the Deep Synoptic Array (DSA), also known as DSA-2000 (more at deepsynoptic.org). The instrument, currently in its design phase, will be a world-leading radio survey telescope located in a radio-quiet area of Nevada. With 2,000 five-meter antennas spread over ~17 km, it will operate on the 0.7 to 2 GHz (gigahertz) frequency range, a bandwidth that overlaps with the Very Large Array (VLA), the array of giant dish antennas located 50 miles west of Socorro on the Plains of San Agustin.

Her strong desire for a world-class graduate education led her to NMT. The university's small size and friendly environment allowed her to interact frequently with faculty and find role models and mentors. The school's partnership with NRAO also provided unique opportunities to learn from and collaborate with members of the NRAO staff.

Rosero said a quote from the late Nelson Mandela, former South African president, sums up one of her life philosophies: "Education is the great engine of personal development."



Peck on a VLA telescope

Peck at Atacama Large Millimeter-submillimeter Array (ALMA) in Chile

AMONG THE STARS

Her advice to future and current STEM students? “Try to identify good mentors and role models. Be flexible. Use a small window of opportunity as a building block. Be very persistent – persistence is key. Challenge yourself.”

Dr. Alison Peck earned graduate degrees in Physics in 1997 and 2000 from NMT after completing an undergraduate degree in physics and math at the University of Nebraska Kearney. She has worked for many years as a program director for the National Science Foundation (NSF) in its Astronomy Division. Peck’s NSF responsibilities include overseeing proposals related to midscale astronomy instrumentation, assembling panels of technology and scientific experts to determine which projects receive NSF funding, and ensuring that the funded projects “get the best science out.” She previously worked at the NRAO under a pre-doctoral fellowship, learning, researching and contributing to radio telescope development.

Like Rosero, Peck said the environment she found at NMT was “exactly what she needed” – a small school with phenomenal students and easy access to patient and supportive faculty who helped her meet challenges.

“I would not have excelled elsewhere,” Peck said. At NMT, “I was not a statistic. In a larger, anonymous school I would have struggled. It set me up for a much more diverse career in which I was not afraid to try new things.”

Peck offers this advice to current and future NMT students seeking a career in astrophysics: “If you’re struggling, keep putting one foot in front of the other. People around you may look like they’re not struggling, but they are. It really is hard for everyone.”

Rosero at the VLA with eldest son (and pregnant with second son)

Rosero at the VLA while a graduate student

A STEM PATH TO LAW

By Rebecca Clemens

By the time she was 16, **Mia Karmesin** knew that she wanted to go into law. New Mexico Tech is not generally the first choice of university for someone planning to become a lawyer. However, psychology is a popular undergraduate major for future lawyers as it can provide fundamental insights into human behaviors, and NMT has a small but excellent psychology program.

Born and raised in Santa Fe, NM, Karmesin was primarily homeschooled, which provided a well-rounded education, but she missed out on the socialization that educational institutions provide. To reduce the chance of being overwhelmed at a large university, she looked for a school with a small campus and small class sizes. NMT was a great fit –a small STEM school with a high faculty to student ratio, a good location (about two hours from family), in-state tuition costs, and a psychology degree program specializing in neuroscience.

During her time as an NMT student, Karmesin loved the small class sizes, learned to appreciate what a community of students can offer, and even realized she was an extrovert. She graduated with her B.S. in Psychology, with a Minor in Biology, in May 2024.

As a student, Karmesin worked at the Skeen Library and served as the Student Government Association Chief Justice. In the summer of 2023, she interned at the New Mexico Department of Finance Administration, working with a department that handles rules of federal grant management.

The NMT psychology program's emphasis on neuroscience, rather than behavioral, should provide valuable knowledge and insights in Karmesin's future career. Two of her favorite NMT classes were Behavioral Neuroscience (Dr. Taffeta Elliott), which provided basic knowledge about specific parts of the brain and what they do, and Drugs & Behavior (Dr. Stewart Thompson), which explored addictions and treatments.

Currently, Karmesin is finishing an Associate's degree in Paralegal Studies at Santa Fe Community College that she started before coming to NMT. She took (and did well on) the LSAT, and has been applying to several law schools.

Karmesin defines law as translation: a way to explain complicated terminology and concepts to others in clear, understandable language, and she feels it is a huge opportunity to be of service. She plans to specialize in judicial reform, and possibly work as a public defender or with the Innocence Project.

She said, "I received a good education from NMT, and I also enjoyed doing things outside my degree-required classes, such as taking an art history class and a weaving class." She hopes in the future more young women will see and pursue more opportunities in STEM majors, even if their career plans are not in traditional STEM fields. Her advice to fellow and future alumnae? Do enjoyable things outside class and work – participate!

Karmesin traveling internationally

Karmesin enjoying an outdoor cafe

STEPPING STONES

By Rebecca Clemens

Posadas and husband Aric Horst

Amanda Posadas grew up in El Paso, Texas in a family of engineers and scientists: her father worked at White Sands Missile Range, and various relatives were in electrical, aeronautical, or petroleum fields. Following in her family's STEM footsteps, she attended a small STEM-focused magnet high school. When preparing for college, she toured several Texas and New Mexico universities, but found many of the campuses, class enrollment, and athletics focus to be too large. She eventually visited New Mexico Tech and liked the small campus, but was wowed by the Mechanical Engineering labs tour showcasing their Junior/Senior Design Clinic projects. "I thought it was really cool that students were actually working on real-life projects," she said.

Posadas mentioned memorable faculty members like Dr. Warren Ostergren (Emeritus VP of Academic Affairs and Professor), who oversaw the Design Clinic courses at that time, and Dr. Osman Inal (Professor, Materials Engineering, 1940-2010), whose classes she enjoyed. "I almost considered changing my major to Materials [Engineering] because I just had a really good time in his class."

As a student, she lived on and off campus and developed several lifelong friendships, including her "man of honor" at her wedding, who she still talks with almost daily. Outside of class, Posadas enjoyed her part-time student jobs, writing for the Paydirt student newspaper and drafting diagrams for the EMRTC machine shop.

In May of 2011, she graduated with her B.S. in Mechanical Engineering. She decided to pursue an M.S. in Systems Engineering after speaking with the Chair of the Industrial, Manufacturing & Systems Engineering Department at the University of Texas at El Paso (UTEP) about the program and their strong research partnerships. During her graduate program, she said, "I learned what I was good at and what I really enjoyed. I'm more artistic and organizational; I do a lot more technical writing, I'm really good at project management and building compelling presentations and showcasing the work we do as engineers."

Posada's participation in the NMT chapter of Society of Women Engineers (SWE) has played a pivotal role in her life and her career, building connections with other women in STEM. For a while she even served as the SWE V.P. of Membership. "Finding a strong organization like that you can continue with is helpful. You're not just socializing with mechanical, there's other programs as well." During the last semester of her master's program, she attended a SWE Regional Conference in Dallas and found herself with two promising job offers - one from Halliburton for a Mechanical Engineering position, and one with AT&T's Technical Development Program (TDP) with a focus in software development, which she decided to accept.

She joined AT&T in June of 2013 as a Systems and Requirements Engineer. Since then, she has progressed through multiple roles and positions within AT&T's Technology Services (ATS) Organization: Business Analyst, Program/Project manager for AT&T's Chief Data Office/ TDP Internship Program, communications lead for her organization, and Portfolio Management. Since October 2020, she has been part of a new COMPASS Operations Team partnering with Finance and Corporate Business Partners to develop and align their development budgets to their Lean Business Cases. This team, she said, "Just started, and it keeps developing. It's a really small team of mostly women. My direct boss is a woman, her boss is a woman, and her boss is a woman, all the way up to the V.P. level. Very strong women and it's great."

Amanda encourages students to find both mentors who provide support and guidance to grow their skills as well as sponsors who recommend opportunities and roles that will challenge and help them achieve more. Sometimes, these people are one and the same, but often you will need both to progress and pivot in your career journey. She said, "Luckily I have had several. When I was in a management role with the internship program, the client I was working with mentored me and taught me how to navigate AT&T professionally, and how to write presentations that were dynamic. Currently, my AVP is really one of my sponsors; she's always encouraging me to try new things. She's the one who recommended me for my current team."

In Posada's experience, education and career are not a path but a series of stepping stones. Trust yourself, mentors, and sponsors to recognize those stones and make the leap, especially when they aren't linear or straightforward.

STUDYING BACTERIA EATERS

By Rebecca Clemens

When **Cassandra Skaar** was young, she was once told she "didn't have a standard personality for a scientist." She chose science anyway.
In middle and high school in Raleigh, NC, her favorite subject was biology, especially learning about environmental aspects of biology.

When it came time to apply to colleges, she knew of New Mexico Tech because her father, Dr. David Skaar (Associate Professor, Toxicology Program, North Carolina State University), grew up in Alamogordo, NM, and earned his two B.S. degrees (one in Biology, one in Mathematics) at NMT in 1994. She chose NMT for its small size and because of New Mexico's geography and climate.

As a freshman starting at NMT, her advisor, Dr. Linda DeVeaux (Biology), recommended a two-semester Science Education Alliance Phage Hunters Advancing Genomics and Evolutionary Science (SEA-PHAGES) pilot course. The experience included studying isolated viruses that infect bacteria in soil samples, led by DeVeaux and Dr. Kaarin Goncz, who Skaar noted is a personal favorite for her supportive and insightful attention to and care of students. That course introduced Skaar to the huge world of viruses, where so much is unknown.

As a sophomore, Skaar joined Dr. Thomas Kieft (Emeritus Professor, Biology) on two projects: one addressing unsightly algal and cyanobacterial growth in Carlsbad Caverns, and the other in preliminary research of viruses from deep ancient brine. She was awarded a Goldwater Scholarship in 2023 (**https://nmt.edu/news/2023/goldwater-scholar.php**) for her contributions as an undergraduate researcher.

She graduated with her B.S. in Biology in May 2024, and is currently finishing her M.S. in Biology at NMT with research advisor Dr. Daniel Jones (E&ES Geobiology and NCKRI). Skaar calls Jones an "inspirational advisor, in her corner."

Her master's research is characterizing bacteriophages in acidic lakes in Valles Caldera National Preserve, to see how viral dynamics are affected by acidic environment levels through a mix of field sampling, lab work, and bioinformatic analysis. After completing her M.S. degree, she plans to pursue a Ph.D. related to understanding how viruses interact with the environment and their microbial communities.

In addition to her undergraduate studies, she was a member of TriBeta (Biology Honor Society), participating in outreach activities for local schools and the community. As a graduate student, she enjoys outdoor activities, making time to hike on trails around campus, in the Bosque del Apache, and through local canyons to keep sane and grounded. Skaar enjoys NMT and feels connected to faculty and her peers. She noted, "I made some friends for life."

In the field

Testing acidic lake water

WHY NMT? SCIENCE!

By Rebecca Clemens

Chloe Avitia grew up in a family where business, finance, and accounting were the primary career paths. However, she developed an early passion for space and astronomy, which later evolved into an interest in astrophysics. Raised in Las Cruces, NM, her family also placed a strong emphasis on education—her mother is a professor at NMSU in Administrative Technologies. Avitia shared, "I was encouraged to pursue a STEM college education because of my interest in science."

When asked why she chose New Mexico Tech, Avitia's succinct response was, "Science!" Its STEM curriculum, small size, and in-state tuition also added to its appeal, and she is currently a Junior in Physics, with Astrophysics focus, with an expected graduation in May 2026. She plans to pursue a Ph.D. in Planetary Physics, and after that seek a fulfilling career with a national laboratory.

Since starting at NMT, she said, "The Physics department has been warm and welcoming, and very student- and research-focused." She has been a student research intern with the Langmuir Laboratory for Atmospheric Research since October 2022. Dr. Caitano da Silva (Associate Professor, Physics) cited her as a "self-motivated, driven, dedicated and hard-working" student.

Avitia's favorite class, so far, has been Comprehensive (aka, Modern) Physics with Dr. David Meier (Associate Professor); the class textbook was "A Radically Modern Approach to Introductory Physics" by Dr. David Raymond, Professor Emeritus of Physics and Research Physicist with the Climate and Water Consortium.

Avitia is in her second year as president of the NMT Physics Club. "The club does a lot of outreach at campus events and with area elementary and middle schools," she said. "There's also interdepartmental collaboration as students" (e.g., a current member is a Mechanical Engineering major and has been a big help with refurbishing the club's trebuchet).

Overall, Avitia said she has had good experiences at New Mexico Tech. She especially appreciates the opportunities to participate in and present as a student at conferences such as the 2024 American Geophysical Union (AGU). From her early interest in space, to her current academic studies as an astrophysics major, to her future path in planetary physics, Avitia's life is all about interstellar STEM.

Avitia and fellow student researchers at Langmuir Lightning Laboratory

NIGERIA TO NEW MEXICO

By Rebecca Clemens

Arriving in Socorro, NM, in December 2020 (to begin classes in January 2021), **Funmilola Nwokocha** encountered some adventures and challenges: starting as a new graduate student at a very small school in a foreign country; living in a very small town after growing up in a very large city; and experiencing snow for the first time.

Nwokocha grew up in Ibadan, Nigeria, and earned several degrees before coming to New Mexico: a National Diploma in Mechanical Engineering (Yaba College of Technology, 2005), a B.Eng. (2011) and M.Eng. (2016) in Mechanical Engineering (Federal University of Technology Akure), and an MBA (University of Lagos, 2020). She was interested in pursuing a Ph.D. in Mechanical Engineering, and learned about New Mexico Tech from a friend who had earned a M.S. in Biology here a few years ago.

For the first year, she and her two daughters lived in NMT student housing until her husband, ThankGod Nwokocha (M.S. Materials Engineering, 2024), joined them the following year. The family has now moved to the Albuquerque area, where her husband works for Intel as a Process Engineer.

Nwokocha's research with her advisor, Dr. Andrei Zagrai (Professor, Mechanical Engineering), focuses on structural health monitoring (SHM) of aerospace vehicles and components (see Gold Pan article in Summer 2024 issue). Zagrai noted, "Funmilola distinguished herself as an intelligent and dedicated student. Her passion for continuous learning and willingness to explore new and challenging concepts set her apart as a graduate student."

Her dissertation title is "Structural Health Monitoring of Space Vehicles Using the Multi-Input, Single-Output (MISO) Electro-Mechanical Impedance Method." Her experiment design (the hardware was built by a student team) to measure the effect of space environments on the impedance of a cantilever beam during flight was launched to suborbital space on rocket SL-15 (see photo) on October 1, 2024, from Spaceport America. As Nwokocha noted, "The rocket successfully launched and returned with data, which I incorporated into my dissertation," which she defended in November 2024.

Nwokocha with the rocket containing the SHM experiment she designed

She appreciates New Mexico Tech's blend of theory and practical application, hands-on lab work and computer simulation, and experiment and analysis. Ideally, she would like to pursue a research-based career that relates theory to practical application, as she much prefers hands-on work.

Nwokocha and her family have visited other parts of New Mexico and the United States since arriving in Socorro, although she has not been able to travel back to Nigeria.

She has been in the field of Mechanical Engineering since 2003, and (initially) faced some discrimination as a woman. Over time she has been learning to successfully handle such situations, and is encouraged (e.g., when attending conferences) to see the female population in STEM increasing.

JUST SHOW UP

By Rebecca Clemens

Sarah Crotzer grew up in a STEM environment. While in high school in Los Alamos, NM, she liked robotics, chemistry, and biology. Her mother (a first-generation college graduate) had been a nuclear engineer at Los Alamos National Laboratory (LANL) and her father is currently in professional computer management at LANL, so New Mexico Tech was a natural choice for her. (Crotzer's sister Madelyn is also an NMT sophomore in Chemical Engineering.) NMT's appeal also includes, she said, "Its value, small size, good relationships with professors, and its track record for preparing students well for their futures."

Crotzer completed her B.S. in Biomedical Sciences with Biology Option and Bioinformatic Engineering Concentration in May 2024. Her senior year she discovered biomolecular dynamics (studying and modeling how atoms in proteins and nucleic acids move over time) and realized, "This is what I want to pursue."

She is now an NMT master's candidate in Chemistry conducting research under the guidance of her advisor, Dr. Sally Pias (Assistant Professor, Chemistry). Crotzer is studying one specific protein in mitochondria, using computer modeling to see if it's involved in "cell death."

Pias praised Crotzer, noting, "Sarah is an outstanding researcher, who approaches problems with a combination of discipline and creativity that is particularly valuable. She learns quickly and has excellent follow-through. I have been privileged to have the opportunity to mentor her, and I am excited about the contributions she will make to science and the scientific community."

Crotzer has had two internships at LANL. One was in a biology wet lab mutating an enzyme to digest plastics which, she said, "was useful and pointed to my preference for [computer] modeling." The other LANL internship was in a biomolecular dynamics group that allowed her to hone her skills in modeling. Currently at NMT she works as a research assistant and as a STEM Communications Fellow in the Writing Center, which allows her to use her communication skills to help other students learn how to improve their reports, posters, presentations, and articles.

Crotzer volunteers with the NMT Mechanical Engineering Robot Outreach program under the guidance of Dr. Curtis O'Malley (Assistant Professor in Mechanical Engineering), continuing her high school robotics experience. She taught robot coding to students in the Upward Bound and STEM Experience summer programs, built seven rovers, gained CAD modeling experience, and even designed and constructed a "toasterbot," a 30-pound combat robot with two saws that goes on tours around the state to middle and high schools.

Her future plans include continuing on for a Ph.D., then a postdoctoral position, then, someday, working at a national laboratory.

In her personal time, Crotzer enjoys hiking. Another extracurricular activity she discovered as an undergraduate: one semester she signed up for a stained glass-making class and, as she said, "I fell in love. I'm now going for my third class. It's three hours every week with no interruptions."

In high school, as a female student, she was used to being in the minority in STEM studies. Women are in the majority in Biology at NMT, but Crotzer noticed that "I was in the minority in line at the cafeteria and in most of my core curriculum classes like Math and Physics." Her advice to other women in STEM? "Just show up. Go to class, go to career fairs, go to conferences – opportunities arise when you're there to catch them."

TENACITY, GRIT, AND SUPPORTIVE FACULTY

By Rebecca Clemens

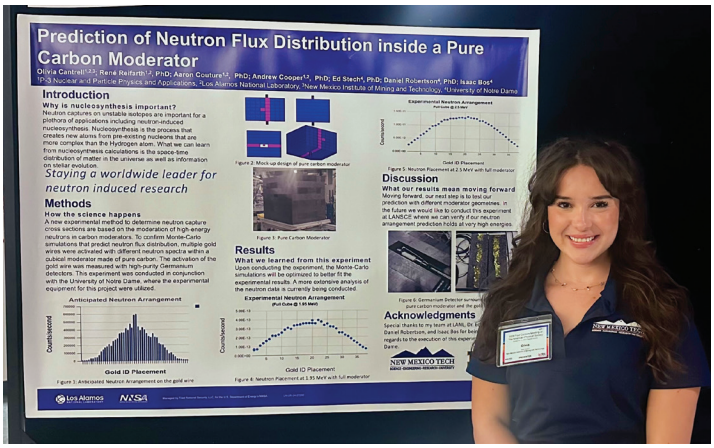
Olivia Cantrell is proud to be a member of a very small, but hopefully growing, category of college students: She's female, Hispanic, and majoring in Physics (with Astrophysics Option).

In Cantrell's first year of high school, Dr. Nicole Lloyd-Ronning from the Computational Physics and Methods Group at Los Alamos National Laboratory (LANL) gave a talk about astrophysics at her school, and Cantrell was inspired. Between her sophomore and junior years, she attended an NMT STEM Experience summer camp (Biology and Psychology focus), and fell in love with science and New Mexico Tech. As she noted, "It gave me my first hands-on lab experience, which I fell in love with, and introduced me to fellow students who were also mildly geeky."

Once she started at NMT in the fall of 2021, however, this high school valedictorian at McCurdy Charter School in Española, NM, "was humbled to find that my high school math education wasn't at a level expected of incoming NMT freshmen." This increased the challenge in pursuing an NMT degree, as did the fact that this was her first time in a classroom since COVID restrictions were put in place. She dug in and committed to success. She spoke with her undergraduate advisor, she went to professors' office hours, and she sought help at the tutoring center.

Cantrell lists several physics faculty for her persistence and success: Dr. Ryan Norris, her advisor, who helped her believe in herself; Dr. David Meier, one of her best lecture professors; and Dr. Minnie Mao, who Cantrell credits with being one of her main reasons for surviving her freshman year. Dr. Mao said, "Olivia never fails to impress me with her tireless perseverance and can-do attitude. Not only is she incredibly intelligent and hardworking, she's also kind, funny, and charming. She is a wonderful representative of the physics department!"

Through tenacity, grit, faculty support, and many hours devoted to her studies, Cantrell is now confident in her ability to graduate. She has interned four summers at



LANL in different groups, worked two years as an NMT undergraduate researcher at Langmuir Lightning Lab, and is currently working for Dr. Douglas Wells (Physics) in studying new ways to make new isotopes for use in nuclear medicine. She notes, "NMT does an amazing job in providing undergraduate research opportunities."

Outside the classroom, she's a member of the Physics Club, did lead data analysis for the Astronomy Club for two semesters, and belongs to the InterVarsity Christian Fellowship. Thanks to an interest in electrical engineering, including taking five credit hours of EE classes, she joined the NMT IEEE student chapter and she is currently serving as the club's Vice President. She also plays volleyball, kickball, and (her favorite) softball.

After she graduates with her B.S. in Physics, Cantrell plans to pursue a Ph.D. in Nuclear Physics or Astrophysics, and she looks forward to finding a fulfilling career in experimental nuclear physics or astrophysics.

Cantrell with winning student poster at 2024 APS Four Corners

I FOUND A GREAT PLACE

By Kathryn Bauer

FEATURE–FACULTY–DONOR–ALUMNA

As a New Mexico Tech alum (B.S. Chemical Engineering, 2002), faculty member, donor, and Socorro resident, **Dr. Michaelann Tartis** gives back in multiple ways to the institution she credits with launching her successful academic and research career. She strives, as a full Professor in the Chemical Engineering Department, to provide her students with the valuable access, research opportunities, and encouragement she received during her undergraduate career.

The Albuquerque native grew up in a family with many ties to science and academia. She landed at NMT as an undergraduate in chemical engineering, a field of engineering that seemed to be welcoming more women.

"I liked math, I liked chemistry," she said. "It seemed like a good mixture."

What helped make her undergraduate years enjoyable and successful for Tartis were the students and faculty members she met who supported and encouraged her.

"I found 'my people' at Tech", she said. "I found a great place. I really enjoyed that environment. I'm really grateful for the opportunities I had."

Tartis credits the university's small campus and close-knit community for creating a positive environment for her. What also tops her list of NMT's advantages are the access students have to professors, their open-door policies, and the many research opportunities that came her way as an undergraduate.

During Tartis' junior year, she worked closely with her advisor, Dr. Donald H. Weinkauf, a chemical engineering professor, and with another student to build fuel cells for his research into proton exchange membranes.

"It was a really great experience," she said, citing the opportunity to receive guidance from Dr. Weinkauf, but the freedom to also have to figure out how to do things herself and to improve upon her work.

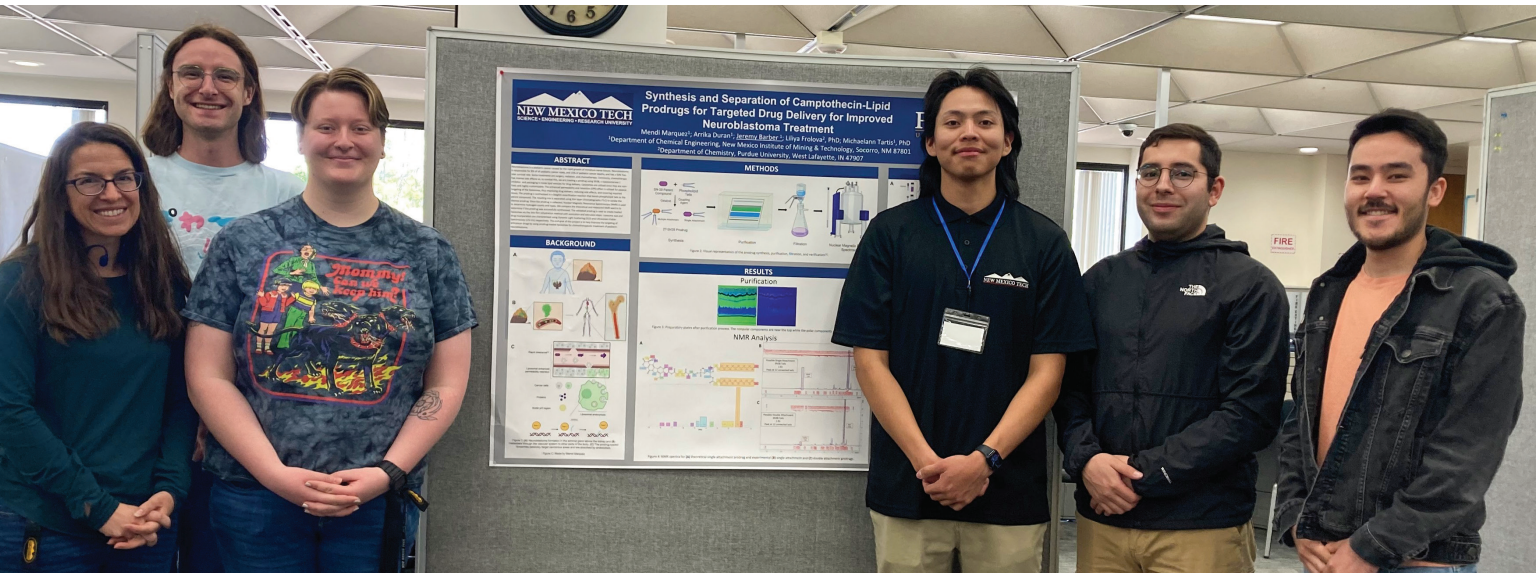
Tartis credits another influential experience during her undergraduate years, studying under psychology professor Dr. Robert Holson, for helping her determine her academic career path. Taking neuropsychology and engineering classes junior year introduced her to the idea of applying engineering principles to drug delivery for patients.

"It sparked my interest in neurology, physiology, and biology," leading her to pursue a graduate degree in biomedical engineering at the University of California, Davis. "Engineers address drug delivery for chemo and other therapeutics. I finally figured out what I wanted to do," Tartis said.

At UC Davis, Tartis encountered massive lecture halls, thousands of grad students, and more limited access to professors and research experiences. The valuable opportunities she enjoyed at NMT were more evident to her, she said.

After completing her Ph.D. in biomedical engineering in 2006 at UC Davis, Tartis said her NMT advisor Dr. Weinkauf reached out to her about academic position openings at New Mexico Tech. She had started to look at jobs in the biomedical industry and hadn't seriously considered a career in academia.

"The job interview at NMT opened my eyes," she said. "I liked the idea of going back to a smaller campus. I appreciated the education I got at Tech and wanted to do the same for others."



(l to r) Tartis, James Angelos, Arrika Duran, Jeremy Barber, Eric Galindo, Anthony Baker at the Student Research Symposium

As a faculty member in the Chemical Engineering Department, Tartis has worked to recreate the environment she said helped her undergraduate career. She's grateful for her colleagues and treasures the opportunity to really get to know her students. Tartis said she aims to be approachable to students, providing ample time for them to meet with her and seek her out when they need guidance and advice.

Eric Galindo (Materials Engineering, Ph.D. 2025 and B.S. 2019) is a member of Tartis's lab group. He said, "As a recent doctoral graduate under Dr. Tartis, she elevates her students' curiosity and love for scientific research through rigorous guidance, ultimately allowing growth as a student-researcher, which attracts promising networking opportunities. In addition, Dr. Tartis has always been known to construct a friendly and professional environment in her laboratory and teaching classrooms.

Her current research areas include exploring and validating targeted drug delivery methods (ultrasound, microbubbles, lipid-based), among others. Read more about her research in the Winter 2018 Gold Pan at **https://nmt.edu/advancement/goldpan_archives/2018_Winter_GoldPan_Corrected.pdf**

Another way Dr. Tartis and her family have given back to NMT is through their significant donations. Her family established a scholarship in memory of her stepbrother, Dr. Jon Michael Collis (B.S. Mathematics, 2001), who died in 2022 at age 46 after suffering a head injury from an accidental fall. More information about this and other endowments is available online at **https://www.nmt.edu/advancement/list_of_scholarships_and_endowments.php**

Advice Tartis likes to pass on to her students is to approach their academic and future work careers with an open mind and take a flexible approach to their path.

"It rarely seems like you end up where you expected," she said. "Keep an open mind. Try things. See what you like and what you don't like."

A great university like NMT provides students with opportunities to explore – and to fail, Tartis said. Too often students are afraid of "messing up" or getting off track.

"Don't be afraid of failure," she said. "It's the best way I know to learn."

Games Night (l to r) Arrika Duran, Tucker Burnett, James Angelos, Luke Andrew Venturina, Eric Galindo, Anthony Baker, Tartis, Mary Pinnell

Tartis with her lab group and family (l to r) Dustin Salazar, James Angelos, Anthony Baker, Emma Womack, Mendi Marquez, Eric Galindo, James Tartis, Tartis, Arianna Matthews, Arrika Duran, Luke Andrew Venturina

ALUMNI RECEPTIONS AND EVENTS 2025

March

15 – US Space & Rocket Center Tour, Hunstville, AL

26 – Albuquerque, NM

April

10 – Chicago, IL

23 – Washington, D.C.

25 - Las Cruces, NM

May

2 – Dallas, TX

10 – Chihuahuas Baseball, Southwest University Park, El Paso, TX

17 – NMT Commencement

20 – Boise, ID

21 – Idaho Falls, ID

June

7 – Family Fun Day, Albuquerque, NM

14 – Las Vegas, NV

18 – Durango, CO

21 – White Mountains Hike, Ruidoso, NM

24 – Seattle, WA

25 – Spokane, WA

26 – Salt Lake City, UT

September

18–19 - The 2025 Dan López President's Golf Tournament

October

16–19 – 49ers Socorro, NM

Scan the QR code to access more details and RSVP online.

2024 Christmas on the Pecos

2024 London reception

2025 Denver reception

2024 PRESIDENT'S GOLF TOURNAMENT

The 31st annual New Mexico Tech President's Golf Tournament was, once again, a popular event, reflecting the strong community support for the university and its students. In September 2024, a remarkable 96 teams, including several sponsored student teams, came together to participate in the two-day tournament. The number of teams is a testament to the tournament's growing appeal, as golfers from across the region vie for the chance to support a worthy cause. The tournament raised an astounding $312,119, which will have a substantial impact on the lives of NMT students. These donations go directly to the President's Tuition Assistance fund, which provides a critical lifeline for NMT students nearing the completion of their degree who have exhausted federal and state-sponsored financial aid options. Since the tournament's inception in 1994, this fund has supported more than 500 students with over $1 million in much-needed assistance, helping them overcome financial barriers and achieve their academic goals. The continued success and growth of this annual event is a true testament to the NMT community's unwavering commitment to supporting its students and ensuring their success.

NMT's Kappa Sigma fraternity students volunteering their time at the tournament - Nomar Roman, Bishop Cervantes, Ivan Watchman, Gabe Crespin, Khan Lin, and Chris Beall

The Hot Shots! Aye! (hosted by Bill & Ann Murphy Daily) - Georgia Pedro, Sarah Luther, Marie Gutierrez-Alarid, Patty Jojo.

Georgia Pedro hosted by Bill & Ann Murphy Daily

NMT Golf Club (hosted by the Marge Fagan Women's Scholarship Fund) - Adam Murrell, Haileigh Grubbs, Brian Kirk, & Karl Berni

Gathering for the shotgun start - Regent Dave Lepre, Tony Trujillo, Lt Gov. Howie Morales, and more...

FISCAL YEAR 2024

OFFICE FOR ADVANCEMENT & NEW MEXICO TECH FOUNDATION

Total Donations July 1, 2023 – June 30, 2024

$5,440,328.11

Campus Information Academic Year 2024

Number of undergraduates Fall 2023	1,065
Number of graduate students Fall 2023	273
Degrees awarded AY2023	356
Student-to-Faculty Ratio	10:1
Average Undergraduate Lecture Class Size	18

NMT Cost (Tuition & Fees)

Full-time, per academic year

Undergraduate (2023-2024)

Resident	$9,058
Non-resident	$26,312

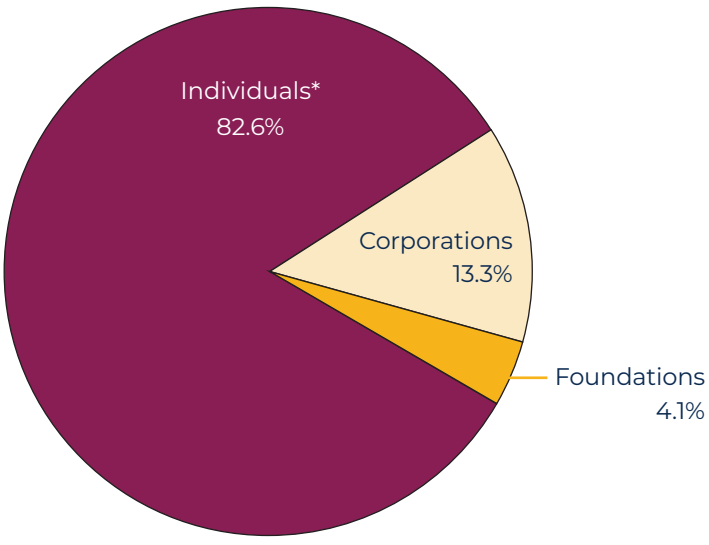
Graduate (2023-2024)

Resident	$9,548
Non-resident	$28,022

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

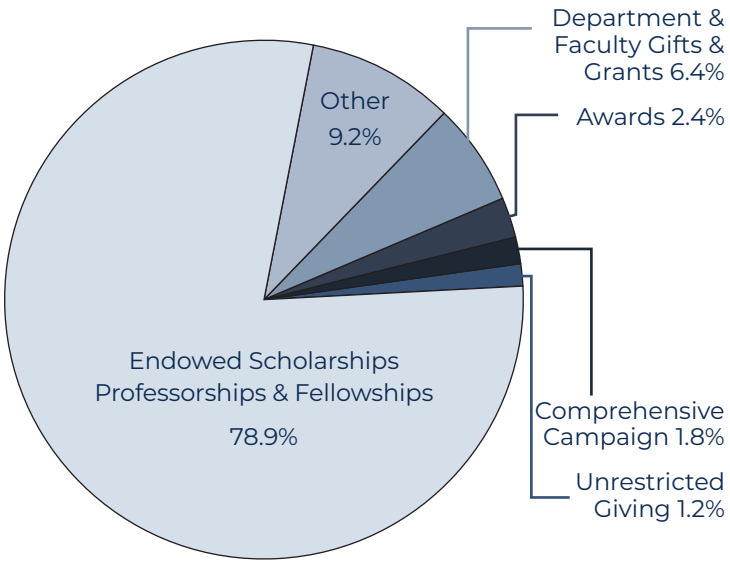
FY 2024 Donor Categories

* Individuals include Alumni, Donors, NMT Employees & Faculty, NMT Foundation Trustees, and NMT Regents

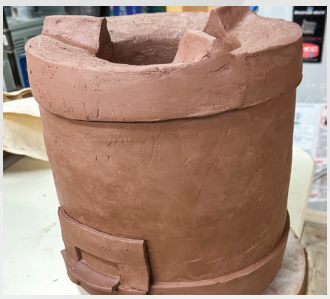


FY 2024 Donation Categories

* Other includes Administrative Fees, Outreach, PAS, Student Clubs, Student Support, and University Support



FRANK CARSEY



(B.S. Physics, 1965) reports: I have recently joined Burn Design Laboratory (https://burndesignlab.org/) of Vashon Island, WA as a volunteer. To fill in the 60 year gap a bit, I got a Ph.D. from UCLA in 1971, went into atmospheric physics as a post-doc at the NOAA lab in Boulder, CO, was part of a wonderful Arctic project afterwards, then joined NASA, retiring from JPL in 2005. Lovely work life and I also have a wonderful son and wife! I got interested in ceramics craft and art and show my work at Collective Visions Gallery in Bremerton, WA. A while back I toured Burn and ended up designing an all clay cookstove for Africa, striving for an inexpensive but clean household stove (pictured). Life is splendid; work is a gift.

NIKHILESH (NIK) CHAWLA

(B.S. Materials Engineering, 1993), the Ransburg Professor of Materials Engineering at Purdue University, was named the inaugural associate dean for engineering at Purdue University in Indianapolis, IN, effective July 29, 2024. Chawla is responsible for strategizing, prioritizing, and coordinating all engineering programs at Purdue's new capital city extension, which officially opened on July 1, 2024. Chawla's range of duties encompasses key areas, "from establishing research centers, to unique teaching experiences for our students and creating a culture of excellence that is an extension of West Lafayette, but that embodies the unique big-city opportunities of Indianapolis." Half of his time will be spent fulfilling the duties of his named professorship through leadership of his active research program in the area of X-ray imaging of materials (https://engineering.purdue.edu/ChawlaResGroup).

VICKI CONLEY

(B.S. Chemistry, 1976) has been invited, along with her daughter Dr. Shannon Conley, to present a two-person art exhibition at Macey Center on the NMT campus from April 8 to June 20, 2025. The exhibit, entitled Threaded Discoveries: The Intersection of Art and Science, includes contemporary art quilts by the mother-daughter pair and highlights some of their scientific priorities and interests, drawing attention to a wide range of topics including cardiovascular health, inherited retinal degeneration, ecosystem diversity, habitat preservation, and planetary geology. There will be an opening reception on April 11, 2025 from 5:30 to 6:30 pm. Vicki and her husband Doug Conley (B.S. Geology, 1976) returned to Ruidoso, NM, in 1982 after completing their graduate work at the University of Arizona. Since then, Vicki has been a full-time studio artist, first working in ceramics and then in fiber art. While their daughter Shannon did not attend NMT, she has fond memories of competing in the state science fair there as a child and the pair are excited to share their fiber art with the NMT community. For more about Vicki's art visit https://www.vicki-conley.com/.

KARL STAUDHAMMER

Karl Staudhammer (Ph.D. Metallurgy, 1975) writes in: New Mexico Tech's PhD program in Physical Metallurgy was established in the early 1970s by Dr. L.E. Murr, starting with a small cohort of just 12 students. In 1975, the program celebrated its first graduating class, which included two Ph.D.s: Dr. Umar M. Ahmad (Ph.D. Metallurgy, 1975) and myself.

Since earning our doctorates, Dr. Ahmad and I had fascinating and rewarding careers. Dr. Ahmad went on to work at INCO and later served as a research scientist at IBM, while I pursued a career in academia as a professor at Washington State University, and more recently, as Chief Scientist and manager at Los Alamos National Laboratory. Although our professional paths diverged, we continued to keep in touch over the decades.

I have always referred to Dr. Ahmad as the first Ph.D. graduate in Physical Metallurgy at New Mexico Tech, though only by virtue of alphabetical order. Dr. Ahmad, however, always argued that alphabetical order had nothing to do with his status as the #1 Ph.D. graduate!

Unfortunately, Dr. Ahmad passed away November 18, 2024. I fondly remember the last time our families were able to reunite, during the 2019 NMT 49ers celebration.

BOYUN GUO

(Ph.D. Petroleum Engineering, 1993), published his recent paper "Prediction of the Optimal Post-Fracturing Soaking Time in Multifractured Shale Gas/Oil Formations on the Basis of Modeling of Fluid Imbibation," in the SPE Journal. The article received 11,764 citations in the first month.

ZOË HAVLENA AND NELS IVERSON

Havlena (B.S Biology, 2017; M.S. Biology, 2019; and Ph.D. E&ES Geobiology, 2025) and Iverson (M.S. Geology, 2014 and Ph.D. E&ES Geochemistry, 2017) celebrated their wedding September 28, 2024 in Mount Vernon, WA where Iverson's family homesteaded in the late 1800s.

Of the 119 wedding attendees, 42 (35%) were current or former NMT students/staff/faculty, representing Earth & Environmental Science, Computer Science, Physics, Biology, the Petroleum Recovery Research Center, the National Cave and Karst Research Institute, and the New Mexico Bureau of Geology and Mineral Resources (NMBGMR). Combined, this represented a total of 33 degrees awarded from NMT, including two for the father of the bride, Jeff Havlena (B.S. Geology, 1983 and M.S. Hydrology, 1988). To answer to the classic question "how many doctors does it take to celebrate a wedding?" the answer here would be "26."

Iverson and Havlena began dating in 2019 as she was beginning her Ph.D. program and Iverson was a postdoctoral researcher at the NMBGMR. Iverson is now a staff scientist at the NMBGMR, and is currently the Electron Microprobe lab manager. Havlena, having successfully defended her dissertation at the end of July, 2024, is headed to a postdoc appointment at Los Alamos National Laboratory. They celebrated their honeymoon on an elk hunt in the Gila National Forest, where Havlena successfully harvested her first bull elk.

JOE MILBOURNE

(B.S. Metallurgical Engineering, 1974) writes: Thanks to all the NMT staff who made the recent 49ers Day and my 50th graduation anniversary so wonderful. My wife Simone and I had a great time enjoying all the events - the dinner, rugby game, parade, and farewell brunch at The Capital Bar, as well as reconnecting with some old classmates. We also visited some of my favorite haunts from school days: the Owl Bar in San Antonio (where we had their wonderful green chili cheeseburger), Magdalena, and the VLA. I had forgotten how beautiful the campus and surrounding countryside are. New Mexico is truly the Land of Enchantment.

Funny story - on the Friday of 49er's Day weekend, I received a call from a former classmate, Charlie Goodman (B.S. 1974, Mining Engineering), who I had not spoken with for a long time. When I answered, he asked...."Joe, is that you?" I replied, "Yes, of course!" He then went on to say he had heard from one of our classmates, Steve Lucas (B.S. 1975, Geology), that I had recently died. Now I know how Mark Twain felt when he famously said, "The reports of my death are greatly exaggerated!"

The next evening, at the graduation reunion dinner, I found Steve, who explained he had heard the rumor from former classmate, Dave Lichtfuss (Bachelor 1975, General Studies), and we had a good laugh. The photo was taken that evening with (left to right) Tom Gaiser (B.S. 1975, Computer Science), me, and Steve Lucas.

KATHLEEN HUYNH

(B.S. Chemical Engineering, 2015) hiking to the top (398 stairs!) to view Mt. Fuji while overlooking the Chureito Pagoda at the Arakura Sengen Shrine in Shimoyoshida, Japan. Note the stylish NMT alumni pin in the lower right corner.

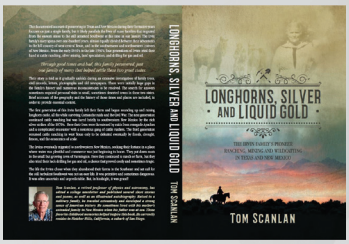
Just arriving in Shimoyoshida, Japan! Can even see Mt. Fuji in the distance from the train station. Note the stylish NMT alumni pin in the lower right corner.

With husband, Justin, exploring the town of Shimoyoshida, Japan. Day started out rainy, but the clouds parted just briefly to view Mt. Fuji behind us!

THOMAS "TOM" SCANLAN

(Geophysics, 1957) writes: I'm wearing a New Mexico Tech jersey that was made available by the college the year the campus turned 100 years old (1989). The setting is a bit unusual: I'm standing next to my grandfather's grave at the West Point Academy, NY graveyard.

I published a book just a few years back about my relatives pioneering in Texas and New Mexico, which mentions NMT in several places (e.g., that my cousin and uncle both attended NMT many years ago). It's available online at Amazon and other book outlets. Because so many of alumni are New Mexicans (a few Texans, too), they may find it interesting because some of their ancestors probably had similar experiences. I'm not pushing sales, but I do think Gold Pan readers might be interested in such a book (or knowing that a NMT alumni member published it).



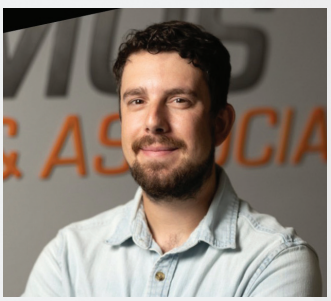
Longhorns, Silver and Liquid Gold cover

SCOTT SANDFORD

(B.S. Math and Physics, 1978) is currently serving as NASA's Senior Laboratory astrophysicist at NASA's Ames Research Center in Moffett Field, CA, where he works in the Astrophysics and Astrochemistry Laboratory. He has served as Co-Investigator and Science Team member on a number of sample return missions. These include NASA's *Stardust* and *OSIRIS-REx* missions, and the Japanese Space Agency's *Hayabusa* and *Hayabusa2* missions, which returned samples from Comet Wild2, Asteroid Bennu, Asteroid Itokawa, and Asteroid Ryugu, respectively. In 2024 he was awarded a Presidential Rank Award for his work done with NASA. As part of earlier recognition of his work, in 2009 he was awarded the NASA Exceptional Scientific Achievement Medal, and in 2004 Asteroid 16035 was named 16035 Sandford in his honor. He and his wife Betsy live in Santa Clara, CA.

NASA Sample Return Capsule Science Lead Sandford, NASA Astromaterials Curator Francis McCubbin, and University of Arizona OSIRIS-REx Principal Investigator Dante Lauretta during the recovery of the OSIRIS-REx Sample Return Capsule (SRC) shortly after it landed at the Utah Test and Training Range (UTTR).

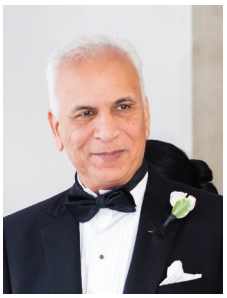
TYLER SPROULE



(M.S. Hydrology, 2019) passed both the Professional Geologist (PG) exam and California Specific Exam (CSE) in October 2024, granting him the right to register as a PG in California. He has been working as a Hydrogeologist (first Staff, now Project) with Lumos & Associates since 2022.

IN MEMORIAM

Umar Moez Uddin Ahmad



(*M.S. Metallurgy, 1972, and Ph.D. Metallurgy, 1975*) passed away November 18, 2024. He was born on April 5, 1946 in Barabanki, India, and graduated from Dawood University of Engineering & Technology in Karachi, Pakistan with a B.E. in Metallurgical Engineering before coming to New Mexico Tech. Umar was the first graduate of NMT's Ph.D. program in Physical Metallurgy, although his dear friend Dr. Karl Staudhammer, the only other member of that graduating class, would joke with Umar this was only by virtue of alphabetical order. After completing a postdoctoral fellowship at Case Western Reserve University in Cleveland, OH, Umar settled in Hudson Valley, NY. Umar began his career with the International Nickel Company, then moved to IBM, where he worked for 22 years, before pursuing a second career in real estate development. Umar owned 28 granted patents. He was an avid gardener and tennis player, a fantastic home cook, and an Urdu poetry aficionado. Umar traveled extensively, loved to watch cricket and eat mangoes with his extended family in Pakistan, and mostly, do anything with his three girls. Umar is survived by his wife Seemi, daughters Sabeen, Azmi, and Asima, son-in-laws Massoud and Michael, grandchildren, and sister. In lieu of flowers, donations may be made to the Alzheimer's Association or to Sibley Senior Association Club Memory.

Nanci R. Aiken

(*M.S. Chemistry, 1984*) passed away at home in Bingham, NM, surrounded by family. Nanci was born on May 13, 1944, to Drs. John and Louisa Aiken who were long-time physicians in Socorro, NM.

While raising her five children, Nanci returned to college at the age of 30 to earn her BS in Microbiology from the University of Maryland, her M.S. in Chemistry from NMT, and her Ph.D. in Medical Sciences from University of New Mexico. She went on to be a postdoctoral fellow in the Radiology Department at the Johns Hopkins School of Medicine, and an exchange scientist at the Hopkins-Weismann Institute in Rehovot, Israel.

Nanci was a pioneer in nuclear magnetic resonance imaging (MRI). Her collaborative nature and expertise in MRI led to obtaining the world's first MRI pictures of single neurons. This paradigm shift impacted the lives and careers of many and paved the way for the first MRI images of mammalian neurons. She went on to be a research professor in breast cancer in the Department of Biochemistry at the University of Arizona School of Medicine.

After retiring from science, and never one to slow down, Nanci founded and directed a virtues-based free public charter school, The Children's Success Academy, in Tucson, AZ. She designed a successful nutritional program, The Nurtured Body, for the students as an alternative to drug treatment for behavioral issues. Nanci was tireless in her community service. She served on the governing board of the El Rio Community Health Care Center in Tucson for 14 years and on the Socorro Hospital Board of Trustees for 8 years after she retired and returned to New Mexico.

She was also a devoted Baha'i and very active in her spiritual community. Her work and devotion in all areas of her professional, spiritual, and community service activities impacted many other people's lives for the better.

Victor Andersen

(*B.S. Physics, 1989, and M.S. Physics, 1993*) of Arvada, CO, a beloved father, spouse, friend, and educator passed away on September 30, 2024 at the age of 59. After 13 months, he lost his battle with Stage IV melanoma, complicated by Long Covid.

Victor's father, Marty, worked for the National Park Service and Victor spent his formative years living in many national parks across the west where he developed a love for the natural world. He went on to earn his BS and MS at New Mexico Tech and a Ph.D. from University of Alabama.

Throughout his nearly 30-year career, Victor provided inspiration for students but especially those who didn't believe a career in STEM was possible for them. Whether working on astrophysical research, teaching physics and astronomy, or mentoring students working on projects that ultimately went into space, he was always there with a smile and words of encouragement. He changed the lives of many students, from kids at Alabama School of Math & Science, to students at Community College of Aurora, to science and engineering majors at University of Houston and University of Colorado in Boulder. He always said he was called to help students realize their potential, particularly those who didn't have the advantages and resources that others had. Victor's former boss at Community College of Aurora stated "There are engineers across the state of Colorado that barely dreamed of completing a college degree and becoming an engineer. Now because of Victor Andersen's dedication they are just that."

Victor leaves behind his wife, Janel; child, Ian (Morgen); many friends; sister, Susan; and a legacy of inspiration in the lives of many students he touched through the years. In lieu of flowers, the family requests that you see a dermatologist and if you would like to donate, please consider a melanoma charity like AIM at Melanoma. Farewell, our Doctor, and we hope to see you in your next Regeneration.

John Robert Dowdle

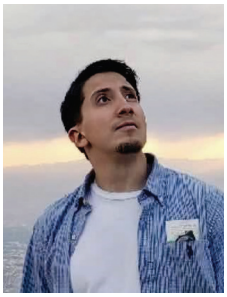
(*B.S. Mathematics, 1960*) was a native New Mexico son, born in Deming on July 9, 1938; he passed away on May 12, 2024, in Austin, TX.

After graduating from NMT, he earned his MBA from Carnegie Mellon in 1963. John had a long and distinguished career with Booz, Allen, and Hamilton. He loved to travel and visited all seven continents. He was an avid fan of the New York Yankees and Dallas Cowboys.

John received an Honorary Doctorate from NMT in 2017 for his many years of contributions to the university and the alumni association. John was preceded in death by his first wife, Mary Rodgers Dowdle, and son, George Rodgers Dowdle. He is survived by his wife of twenty-one years, Ann, sons Jack and Jeff, and multiple grandchildren and great grandchildren.

IN MEMORIAM

Evan Elizondo



(*B.S. Electrical Engineering, 2016*) a beloved son, brother, and friend passed away November 3, 2024.

Evan was born August 16, 1986 with an inquisitive mind and a passion for discovering how things work, which led him to a successful career as an electrical engineer. His brilliant mind and innovative spirit touched many lives, and his contributions will continue to resonate in the years to come.

Beyond his professional achievements, Evan had a passion for collecting. His collections were as diverse as his friends and as expansive as his heart. Each item told a story and was a testament to his eclectic tastes and the joy he found in life's simple pleasures.

Evan is survived by his loving parents, Wanda Gonzales and Richard Elizondo, and his siblings Erick and Ricky. Evan's vibrant spirit, passion for life, and unwavering kindness will be deeply missed by all who had the privilege of knowing him. Though his time with us was cut short, the love and happiness he brought into the world will live on in the hearts of those he touched.

Carol Ann Hjellming

(*Bachelor of General Studies, 1981, and B.S. Chemistry, 1983*), of Albuquerque, New Mexico, passed away on November 4, 2024.

Carol attended the University of Chicago and studied English, where she met her husband and started a family, before she returned to study at New Mexico Tech. She worked alongside Jiri Zidek and Jane Love in the Publishing Group at the New Mexico Bureau of Geology and Mineral Resources and was the technical editor of New Mexico Geology as well as serving in a leadership position with the Association of Earth Science Editors. At the Bureau, one of the atlases she edited won second place for Publication of the Year from the Awards Committee of AESE. She retired in 1999.

Carol was known for being a good friend and a gregarious person, a reader, a quilter, a birder, a traveler, a dancer, and a great Mom. She volunteered her time and energy throughout her adult life and was passionate about a variety of issues. She helped several people in Socorro learn English and gain their US citizenship. At La Vida Llena, in Albuquerque, she was deeply involved in Fiber Arts, including Quilts of Valor and groups that made bibs for LVL residents in Healthcare and pillowcases for children in the PICU at UNM. She found community among quilters, readers, and travelers.

Carol was preceded in death by her husband Dr. Robert M. Hjellming (NM Tech Adjunct Professor and doctoral advisor). She is survived by her five children, five grandchildren, three great-grandchildren, her sister, and extended family. If you wish to honor Carol, donations can be made to your local public library or the Special Olympics New Mexico.

Glenn Douglas Milligan

(*B.S. Mining Engineering, 1961*), was born January 24, 1938 in Ardmore, OK and passed away October 20, 2024. His family moved to Amarillo, TX, where he later wrestled for and graduated from Amarillo High School, then attended Amarillo Junior College before coming to New Mexico Tech. From 1960 to 1974, he worked in underground copper mines in Superior, AZ, White Pine, MI, and near Casa Grande, AZ, holding several engineering and management positions. He was drafted into the U.S. Army in May, 1962, and honorably discharged in May, 1964. He married Judith Ellen Brown on February 14, 1970.

Throughout his life, he amassed a large collection of minerals and fossils which he later donated to Tuttle High School. He enjoyed building fishing rods and lures, photography, and collecting ivory figurines, Kachina dolls, southwest Indian artifacts, and oil paintings. He was an avid reader of ancient and medieval history. In 2000, he became a Master Gardener in the Oklahoma County Master Gardeners Association and took pride in achieving the designation of "Distinguished Master Gardener." He specialized in growing roses, vegetables, and fruit. Glenn is survived by son Troy Edward and daughter Megan Suzanne, niece Suzanne Sutherland, nephew Steve Keene, and several great nieces and nephews. In lieu of donations, the family asks you to simply plant roses, vegetables, fruit vines and trees.

Michael William Nevergold

(*B.S. Chemistry, 1966*), born January 30, 1944 in Roanoke, VA passed away January 17, 2024 in Pearisburg, VA. He began traveling early in his life by attending New Mexico Tech where he earned a degree in Chemistry and a minor in Mathematics. He held jobs at GE and Virginia Transformer as an Engineer, owned a TV and electronics repair shop in Rich Creek, VA, and was employed by Plastics One as a Quality Assurance Manager.

He is survived by his wife, Janice Elaine Watler Nevergold; his children, Tana Marie Nevergold Benge (Roger), Michael Heath Nevergold, Melvin Eugene Nevergold and James Sean King; several grandchildren, great-grandchildren, a brother, a sister, and many nieces and nephews.

Michael was a faithful and dedicated member of the Pearisburg Presbyterian Church and over the years served as Ruling Elder, Sunday School teacher, Clerk of Session and Trustee. He loved to travel and "cruise" various parts of the world. After retirement, his love of gardening flourished.

REMEMBERING “UNCLE AL” STAVELY (1950-2024)

Dr. Allan “Al” Stavely passed away on August 22, 2024. He was a beloved educator, mentor, and friend who left an indelible mark on the lives of all who knew him. He spent over four decades at New Mexico Tech, where his passion for teaching and love for the field of computer science endeared him to countless students and colleagues.

MEMORIES

Professor Stavely welcomed me to campus and was very generous in providing guidance and study materials for the qualifying CS Ph.D. exam. His section of the exam was difficult but fair and I was fortunate enough to be allowed to earn my degree at NMT. My office was right across the hall from his and there were many evenings when the two of us were the only ones in the building. I was able to learn many things about the university, the program, and the Socorro area from Al. He was the one who pointed me to the green chile cheeseburgers at the Owl Barn [sic] (is that place still around?).

Professor Stavely’s Computational Theorem Proving course was the only course in which I did not earn an A (I earned a B+). Tough but fair is how I remember Professor Stavely.

Paul Hinker

Ph.D. Computer Science, 1993

I met Al Stavely in September 1976 - I was a freshman, and he was a brand new Ph.D. just starting his first faculty job. It was a small computer science class - maybe a dozen students. Al was just slightly older than most of us, and one of the students (not me!) nicknamed him “Uncle Al” and it stuck for years - he was a member of the Tech family and a mentor to many students. Al loved teaching, and having fun doing it. For a compiler writing class, he invented a programming language called HUMPTY, which showed how he didn’t take everything seriously. A 3-person self-directed project I did with him turned out to be much harder than we anticipated; instead of giving up, he turned it into a study of why software development projects fail, which turned out to be one of the most important classes I took at Tech. The last time I saw Al, about five years ago, we went to the VLA museum, and marveled over how things had changed in computing in the decades since we first met. I’ve spent much of my career working with professors, and Al was someone who truly loved the profession and gave it his all.

Jeremy Epstein

B.S. Computer Science, 1980

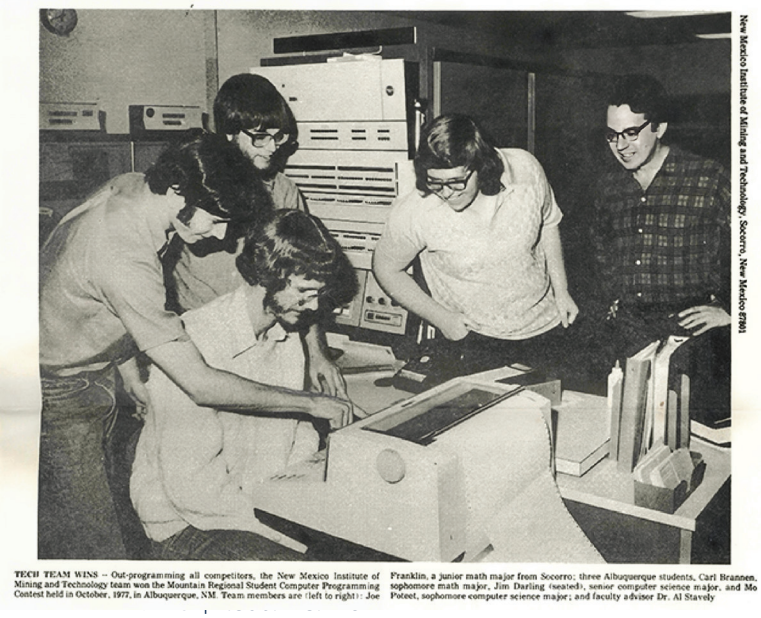
Celtic Fringe

Professor Stavely was foundational in my education at Tech. When I first enrolled, I'd had no formal training in computer science. I didn't even know CS meant I would be programming! I was self taught and underestimated my experience. I would have just elected to sign up for CS110 or similar but someone convinced me to take the experimental CS189, where Professor Stavely introduced me to Scheme. This opened my mind and set the foundation for a lifetime of quality software engineering. I learned so much, and immensely enjoyed, every course I took with him, including zero defect software, software construction, and more. I've incorporated these ideas into my understanding of the software world and benefited from the level-up in quality they've conferred to me. I've specifically mentioned the lessons of Zero defect software in presentations I've given at Python conferences. There is no one who was more instructive and influential in my understanding of the field that's made my career and gives me joy. Thank you Allan Stavely.

Jason Coombs

B.S. Computer Science & Mathematics, 1999

M.S. Computer Science, 2002



New Mexico Institute of Mining and Technology, Socorro, New Mexico 87801

TECH TEAM WINS -- Out-programming all competitors, the New Mexico Institute of Mining and Technology team won the Mountain Regional Student Computer Programming Contest held in October, 1977, in Albuquerque, NM. Team members are (left to right): Joe Franklin, a junior math major from Socorro; three Albuquerque students, Carl Brannee, sophomore math major, Jim Darling (seated), senior computer science major, and Mo Poteet, sophomore computer science major; and faculty advisor Dr. Al Stavely

Joe Franklin and Teammates

Al Stavely was my teacher, my employer (via an NSF research grant), my thesis advisor, a mentor during my time as a part-time faculty member, and my good friend. He was a solid computer scientist, with good ideas about how to improve code correctness and thereby reduce bug fixing costs, an ongoing challenge for anyone producing software. But he had a number of other talents and skills. He was an excellent penny whistle and uilleann pipes player in an Irish band in Socorro (photo, left). He brewed beers, good ones. He modified his 70s-era sedan into a sort of micro-minivan-camper so that he could spend a whole weekend in Crownpoint NM at the Navajo rug auctions. And once, memorably, on a cold night around a campfire during a car-camping trip to the Magdalena Mountains and after several beers, he astonished and delighted us all by reciting the entirety of the Robert Service poem "The Cremation of Sam McGee!" I was always glad to see him when I was in Socorro, and I shall miss him greatly.

Greg Titus

B.S. Computer Science, 1983

M.S. Computer Science, 1986

In the Fall of 1993, I took Al's "Compiler", a killer CS course that all CS graduates will remember! The final assignment was to design and implement a "C" language compiler with 50 test cases. We worked days and nights, trying desperately to complete the assignment. I remember being so sleep deprived that I could fall asleep while walking. At 5:00am, three hours before due time, we successfully ran our executable for the 50th test case and a Christmas tree with a message "Merry Christmas!" showed up on the screen! Al did not have a sense of humor? Says who?

I have retired but looking back, the education I received from Tech, the tough courses included Al's, got me where I am. So I wanted to tell Al: Thank you!

Lanzhong Wang

M.S. Computer Science, 1994

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Please call or email to learn about how you can create your legacy by making an IRA charitable rollover gift this year.

SPECIAL ANNOUNCEMENT

We want to inform our readers that starting in 2026 the New Mexico Tech Gold Pan alumni magazine will transition to an annual publication schedule. While we have thoroughly enjoyed bringing you fresh content twice a year, we believe this will allow us to dedicate more time and resources to creating even richer, more comprehensive issues. Our commitment to delivering high-quality features and captivating visuals remains unchanged, and we're excited for the opportunity to make each annual edition even more special. Thank you for your continuing engagement with New Mexico Tech, and we look forward to sharing our next issue with you in Summer 2025!

FIND CURRENT AND ARCHIVED GOLD PAN MAGAZINES HERE

https://nmt.edu/advancement/gold_pan.php

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Where Legends Walk Among Dinosaurs!

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