Tech President Dr. Daniel H. López won a prestigious lifetime achievement award – the Vanguard Award – from Great Minds in STEM at the HENAAC Annual Conference in October in New Orleans. López won the award for “being an outstanding role model in Science, Technology, Engineering and Mathematics.” The Vanguard Award is a special award that is not given out each year.

“When a candidate is singled out for an award beyond the existing categories, it is because the committee and the host universities recognize the unique contributions of that individual,” said Lenny Martinez, who was among those who nominated Dr. López. “The award is for those who make world-class contributions in STEM fields and the honoree can and will serve as a role model. Dr. López certainly reflects that criteria.”
Dear New Mexico Tech supporters,

The year 2013 included many highlights at New Mexico Tech. We completed one building project and started another. We dedicated the new Steve S. Torres Residence Hall in the fall and broke ground in the winter on the new $24 million building for the Bureau of Geology and Mineral Resources. The new dorm alleviated overcrowding by adding 150 new beds. The new Bureau of Geology building will anchor the northeast corner of campus, and will be a great home for a long-deserving research unit on campus. We can thank the voters of New Mexico for approving $18 million through a G.O. Bond in 2012, and thanks to the State Legislature and Governor Martinez for supporting another $6 million to complete the building.

For the third year in a row, New Mexico Tech has set a new record for enrollment, with 2,134 students taking classes in the fall of 2013. So, the completion of the new dorm couldn’t have come at a better time!

New Mexico Tech continues to be a leader in science and engineering education and research, and we are regularly recognized for our high-quality, affordable education by every method of ranking universities. Over the years, Tech provided the foundation for many successful careers. Our next project is a new building for the Chemistry Department and Materials Engineering Department. Hopefully, we will be successful in making our case for this worthy project in 2014.

The year 2014 will be quite a special year for all of us at New Mexico Tech. This marks the 125th anniversary of the founding of the school in 1889. We will host a variety of special events to celebrate our many accomplishments and achievements. We hope many of you will be able to participate in these events and help us make 2014 a very special year.

Sincerely,

Dr. Daniel H. López
President, New Mexico Tech
The Office of Academic Affairs has had many successes in the past year in its efforts to increase retention, graduation and six-year graduation rates.

Academic Affairs has successfully applied for three U.S. Department of Education grants. Combined, these three grants provide more than $11 million over seven years to Tech. These grants have allowed Tech to implement broad curriculum changes in preparatory, gen-ed, 100-level classes, purchase and install new interactive “smart classrooms,” train faculty on using the new technology and develop new programs to promote achievement and student success.

Combined, these three initiatives have provided new opportunities for undergraduates, graduate students and faculty members. These projects work collaboratively and cooperatively to reinforce themselves. The combined impact has been revolutionary for the Tech community.

One program that has had measurable success is the Living-Learning Communities. Launched in 2011, this program has grown from one cohort of 24 students to five cohorts. First-year students are grouped together by academic interest. They take two or three classes together, live on the same floor of the same dorm and work on a year-long research project. Tech has noted that students in these Living-Learning Communities earn better grades and are more likely to return for their sophomore year.

Academic Affairs also launched the Student Research Symposium, a new initiative to encourage student research work, enhance communication skills and develop a sense of community. In April 2013, more than 100 students presented 56 research projects. The event was attended by 516 people from Tech and more than 100 high school students from the region.

Tech is currently in the process of reaccreditation with the Higher Learning Commission, a project also under the aegis of Academic Affairs. This monumental decadal effort involves every academic department and will result in a comprehensive report chronicling the “State of Academic Affairs” and Tech’s ongoing efforts to improve education and student and faculty engagement.

SCIENCE

BASIC SCIENCES
This bachelor’s of science degree caters to students who are interested in a wide range of disciplines. This course of study allows the greatest degree of latitude in selecting courses. The Bachelor’s of Basic Science is tailored for students who want to become teachers of math or science at the high school level.

BIOLOGY
The Biology Department’s emphasis are in biomedical and biotechnical fields and molecular biology. The department’s broad spectrum includes ecology, cell biology, molecular biology, microbiology and physiology. Tech biology graduates pursue careers in medicine: medical school, dentistry or veterinary school; other career paths include environmental assessment, forensics, drug development and research. Students have access to the best labs and have ample research opportunities.
CHEMISTRY
The Chemistry Department offers a balance between pure and applied chemistry, with a wide range of offerings in organic, analytical, physical, inorganic and biochemical chemistry. Chemists are in high demand in a variety of industries; Tech graduates launch careers in research, biochemistry, molecular biology, environmental science, and applied fields such as materials and polymer science. Chemistry students get many hours of laboratory experience with a full complement of modern analytical instrumentation.

COMPUTER SCIENCE AND ENGINEERING
Undergraduate students in computer science receive a balanced education in application and theory. Research areas include cyber security, malware detection, network architecture, fiber optics and many other areas. Students can pursue a degree in either computer science or information technology. Tech graduates have a wide range of high-salary job options, including national laboratories, private industry, military branches and other federal agencies.

EARTH AND ENVIRONMENTAL SCIENCE
This department offers four closely related disciplines – geology, geophysics, geochemistry and hydrology, with a variety of additional options. Environmental Science is inherently interdisciplinary, incorporating expertise from biology, chemistry, physics, computer science and engineering. Tech graduates enter a variety of fields, from the practical, like mining and water resource management, to areas of research, like volcanology and tectonics. Virtually all students are involved in funded research projects.

INFORMATION TECHNOLOGY
This degree track incorporates computer science, management and engineering courses, with an emphasis on cyber security and information assuredness. Students start with the fundamentals of networking, complex systems and computer analysis; they then focus on specific projects of computer security and threat detection. Tech graduates are highly sought after by government agencies and private firms, like Google and Microsoft.

MANAGEMENT
This department draws heavily on Tech's strength in math, science, computer technology and engineering. Students learn standard management and business
practices, but many projects incorporate engineering, statistics and technology. Management graduates learn substantive decision-making skills and how to effectively oversee complex technology-based organizations.

PHYSICS
The Physics Department has two main disciplines – atmospheric physics and astrophysics. Students learn atomic physics, classical mechanics, electricity and magnetism, optics, quantum mechanics, statistical physics and thermodynamics. Atmospheric research areas are vast – from thunderstorm electricity and precipitation to large-scale dynamics and planetary studies. Astrophysics research is equally broad, including pulsar, galaxies, comets, stellar evolution and star formation.

PSYCHOLOGY
The Psychology Department focuses on learning, memory, intelligence, perception, thought, language and communication. Research includes application of psychology to other fields and techniques for measuring and studying psychological variables.

TECHNICAL COMMUNICATION
This program incorporates Tech's scientific and technical emphasis, teaching students to apply principles of communication and problem solving to transfer information effectively among scientists, engineers, managers and technicians. Students are required to complete an internship and leave Tech prepared for entering the workforce.

ENGINEERING
CHEMICAL ENGINEERING
This program emphasizes education and research in energetic materials, fuel cells, nano-composites, membrane separations, bioenergy, biomedical and thin-film processing. Internships and employment are available at national laboratories and on campus. Chemical engineers are in high demand and earn top salaries upon graduation.

CIVIL ENGINEERING
A variety of programs are offered, from environmental assessment to infrastructure design. Students learn traditional techniques and modern computer-aided methods. Research includes site remediation, structural dynamics and engineering, hazardous waste management, water resource management, risk assessment and modeling.
ELECTRICAL ENGINEERING
The department focuses on electronics and design, with a firm foundation in circuits, signals and systems. Students have many research opportunities with other academic departments, the VLA, Langmuir Lab, EMRTC and the national laboratories. Advanced instruction focuses on optics, remote sensing, spectral imaging and space physics.

ENVIRONMENTAL ENGINEERING
This program focuses on design and engineering of wastewater treatment facilities, landfills and pollution control devices. Students also learn the fundamentals of environmental law and permitting. Tech graduates in this field enter the workforce in private industry or governmental agencies; others pursue graduate degrees.

MATERIALS ENGINEERING
Disciplines involve metals, ceramics, polymers and composites. Students learn synthesis, processing and microstructural characterization of novel materials and conduct research and analysis. In addition to sophisticated equipment on campus, students have access to the national laboratories. Materials engineers often work in manufacturing, petroleum and research industries.

MECHANICAL ENGINEERING
Tech’s largest department, this program offers hands-on lab experiences in instrumentation, fluid mechanics, mechatronics, dynamic systems and controls. Upper level undergraduates spend two years on comprehensive design projects, paired with an off-campus sponsor.

Ryan Jackson is developing and verifying a mathematical model for a small-scale, remote-controlled helicopter by collecting data from an inertial measurement unit (gyroscope, accelerometer and compass) mounted on the helicopter.

Jaime Ealey’s research area is in net erosion, redesigning drainage culverts as part of a project funded through the New Mexico Department of Transportation.

Mekan Ovezmyradov’s research is focused on fabrication and characterization of graphene-based structures.

Master’s student Ben Cooper is involved in the design of science payloads for high altitude balloon and suborbital rocket launches, as well as a student-designed nano-satellite for low earth orbit.
MINERAL ENGINEERING
Tech’s traditional strong suit is mining and students get a solid foundation in interdisciplinary aspects of mineral resources, drawing on virtually every engineering field, chemistry, math and physics. Mineral engineering graduates are highly recruited and command top salaries.

Students exploring the historic Merrit Mine on the Tech campus.

PETROLEUM ENGINEERING
A comprehensive course study is offered in petroleum and natural gas development, exploration and resource conservation. This program is truly interdisciplinary, drawing on mechanical, civil, chemical and electrical engineering. The petroleum industry is lacking sufficient engineers, and oil companies heavily recruit Tech graduates.

Graduate student Sebastian Pivnicka is working on pressure prediction models to improve drilling efficiency, reduce the risk of blowouts, and allow for the ability to drill into more challenging formations, and has received a co-op internship with ConocoPhillips.

BUREAU OF GEOLOGY AND MINERAL RESOURCES
The New Mexico Bureau of Geology and Mineral Resources is the state’s geological survey. Geologic mapping continues to be a fundamental part of Bureau activities.

Currently, about one-third of the state has been mapped at a detailed level. In 2013, the Bureau mapped 600 square miles of New Mexico.

Now in its eighth year, the Aquifer Mapping Program is the only program in the state engaged in regional-scale hydrogeologic research. The Bureau is wrapping up a three-year study of the southern Taos Valley. The goal is to produce a 3D model of the groundwater system. The Bureau is studying the shallow aquifers in the vicinity of White Sands National Monument for the National Park Service.

As part of ongoing plans for the development of Spaceport America, the Bureau is studying the paleohydrology of the Camino Real with an emphasis on the past 1,000 years.

The Bureau is providing a detailed characterization of oil and gas reserves in the San Juan Basin of northwestern New Mexico, and has also been developing a summary of the state’s unconventional shale oil and shale gas resources. The Bureau also has been involved in evaluating the state’s helium resources, as demand for the scarce and indispensable gas increases.

The Bureau is developing a National Geothermal Data System, working with other states and federal agencies to create a publicly available, comprehensive online resource. The agency also works with the U.S. Geological Survey to contribute to the National Coal Resource Data System.
This past year, the Bureau has been engaged in a study of the vital “rare earth elements” in the Caballo and Burro Mountains of southern New Mexico.

With support from the Department of Energy, and in cooperation with Bureau staff, the Jemez Pueblo drilled an exploratory geothermal well to a depth of about 5,400 feet.

New Mexico Tech and the Bureau also are helping the city of Truth or Consequences understand the complexity of their geothermal resources.

Deep red REE bearing altered granite (episyenite) in the Burro Mountains. The deep red color is due to iron.

The new 85,000 square-foot Bureau of Geology building will allow easier access to our Mineral Museum, the Geologic Information Center, the Subsurface Data Library, and analytical laboratories.
The past year saw continued growth in distance instruction, an expansion of the technological resources, and growth in the use of technology.

Four classrooms were outfitted with the “Smart Technology” interactive equipment, bringing the total number of “smart” classrooms on campus – funded by U.S. Department of Education grants – to 26. In 2013, almost twice as many courses, 75, had all of their lectures recorded for use later by students. EODI also added three collaboration/learning spaces, bringing the total to 11.

Enrollment in New Mexico Tech graduate-level distance education courses rose 12 percent in 2013, to a total of 534. Tech’s distance classroom in Albuquerque also was outfitted with “smart” technology. Operations are controlled from Socorro while instructors teach in Albuquerque. EODI also worked with the Air Force Research Laboratory to install a distance classroom on Kirtland Air Force Base. Personnel from the base can now attend live lectures taught at Tech.

Once again, EODI streamed live video of Commencement. 218 people viewed the event live from 20 countries and 23 states.

One new area of research is fuel-air explosives, a new terrorist weapon. EMRTC performed a series of experiments that proved the potential of these homemade devices. Canada enacted a new law for its transport system based on this research.

Another area of research is a new tool for civilian and military bomb technicians. This blade can sever a vehicle trunk lock without detonating explosives inside. EMRTC has validated the concept with small-scale testing. Special Operation Forces asked EMRTC to host 24-hour,
7-day training operations. These scenarios involved over 100 role players simulating full immersive conditions. EMRTC hosted live-fire operations for 200 combat soldiers with 25 live explosive experiments, replicating conditions in southeastern Afghanistan. Special Forces commanders declared the experiment a huge success, showing that EMRTC can provide 24/7 logistics and opening new opportunities to maximize EMRTC’s assets.

One of EMRTC’s major divisions – the Institute for Complex Additive Systems Analysis (ICASA) – is at the forefront of advancement in cyber security. ICASA has 32 employees, including 12 undergraduate interns and graduate-level assistants. ICASA anticipates adding 4 to 6 scientists in 2014, thanks to a multi-year contract with the Department of Defense and a $3 million subcontract through the Air Force.

Demand is steady for the services of ICASA’s Strike Team, in conjunction with CAaNES (Computational Analysis and Network Enterprise Solutions). The team functions as cyber warriors offering reports of vulnerabilities in response to cyber-attacks, audit flags, or other situations.

- ICASA, with CAaNES, helped secure the IT infrastructures for 120 public and private organizations in New Mexico, Arizona, Colorado, Nevada, Texas, and New Jersey.
- ICASA researchers submitted a patent application in 2013 and activities include many journal publications, research seminars, and invited lectures at high-profile events around the world.

For over 50 years New Mexico Tech’s Geophysical Research Center (GRC) has contributed to New Mexico through research, education, service, outreach, and economic impact.

Some GRC research spans the state, such as a recent investigation of the state’s geothermal resources, while other projects are geographically focused, like watershed hydrology studies in Taos and El Rito, and studies of the hydrologic consequences of severe fire burn in the Valles Caldera (with GRC grad students in this project recently featured on PBS’s NOVA television series), and the Gila and Sacramento Mountains.

GRC-related faculty members provide New Mexico with exceptional educational opportunities in the geophysical sciences, attracting undergraduate and graduate students to advanced classes and research opportunities, and leading to the graduation of scientists who make their careers in New Mexico at national labs, consulting firms, energy companies, and state and federal agencies.

GRC students and faculty serve New Mexico through both short-term problem-solving and long-term monitoring projects. Two recent projects are a study for the city of Truth or Consequences that examined the hydrology and sustainability of that city’s hot springs, and Carlsbad earthquake monitoring, which is provided to the operator of the Waste Isolation Pilot Plant.

GRC researchers provide a pool of expert consultants that legislators and policy-makers in New Mexico and around the nation are able to draw upon when considering social effects of powerful and sometimes dangerous natural phenomena that are a major focus of GRC research. For example, one GRC researcher recently provided expert testimony in federal court on the Deepwater Horizon incident in the Gulf of Mexico, and also on statewide aquifer contamination in New Jersey. While the GRC has base funding from the State of New Mexico, the GRC also attracts substantial federal grant dollars and federally-supported facilities to the state of New Mexico.
Astronomers at the Magdalena Ridge Observatory 2.4-meter telescope completed their sixth year as a flagship member of NASA’s Near-Earth Object Observations Program, commonly called “Spaceguard.” NASA detects and tracks asteroids and comets, characterizing a subset of them, and plotting their orbits to determine if any could be potentially hazardous. New Mexico Tech’s 2.4-meter telescope is one of three telescopes that characterizes the newly-found asteroids. The facility was recognized this past year in an episode of PBS’s NOVA: “Asteroids, Doomsday or Payday.” Director Dr. Eileen Ryan appeared several times on KRQE news broadcasts discussing asteroid-relevant topics.

The 2.4-meter telescope astronomers (Drs. Bill and Eileen Ryan) helped NASA scientists at the Jet Propulsion Laboratory in Pasadena, Calif., to rule out the possibility that the asteroid Apophis will impact Earth in 2036 by providing critical data on Apophis’ orbit. Scientists can now accurately pinpoint the location of Apophis in future encounters. NASA project manager Don Yeomans credited New Mexico Tech in an official press release: “With the new data provided by the Magdalena Ridge Observatory [New Mexico Institute of Mining and Technology] and the Pan-STARRS [Univ. of Hawaii] optical observatories, along with very recent data provided by the Goldstone Solar System Radar, we have effectively ruled out the possibility of an Earth impact by Apophis in 2036.”

An April 13, 2029, flyby of the 270-meter asteroid Apophis will be one for the record books. On that date, Apophis will become the closest flyby of an asteroid of its size when it passes 19,400 miles from Earth. The 2.4-meter telescope researchers also determined the spin rate for a smaller asteroid that flew safely past Earth’s surface at only 17,200 miles in February 2013. Further, astronomers at the 2.4-meter telescope tracked Comet ISON as it grazed the sun and came very close to Earth in December 2013; unfortunately, it was mostly vaporized after this encounter. It was a particularly bright and beautiful comet, and the 2.4-meter astronomers acquired a picture of it on its approach in November 2013.

INTERFEROMETER UNIT TELESCOPE

The first Magdalena Ridge Observatory Interferometer Unit Telescope arrived from Belgium in November. The long-awaited arrival of the telescope is a major milestone for the project, which has been more than 15 years in the making. The MRO Interferometer will be a 10-element imaging interferometer operating at visible and near-infrared wavelengths, with baselines from 7.8 to 340 meters. The technical and scientific goals are to produce images of faint and complex astronomical targets at resolutions over 100 times that of the Hubble Space Telescope.

The Unit Telescope is a movable unit made up of a telescope mount, optics, enclosure and ancillary systems. The telescope mount, designed and constructed by AMOS in Leige, Belgium, is a design that uses only three mirrors. The telescope will be housed in an enclosure, designed by EIE of Mestre, Italy, with a rigid frame to support the telescope mount during relocation and a unique low profile to allow telescopes to be placed in close proximity without obscuring the field of view of an adjacent telescope.

Ancillary systems included in the UT structure are a “fast tip-tilt” system, designed by the University of Cambridge, which corrects for atmospheric distortions, an automated alignment system that aligns the telescope, a wide-field finder telescope, and network infrastructure.

The Interferometer’s Receiving Facility will mimic the foundations of the array, cooling systems, and various other systems, allowing engineers to test the telescope mount to confirm its functions are working properly. These tests are expected to be completed by the beginning of summer 2014.
A sink hole near Loco Hills, N.M.

Ordinary heroes at the Boston Marathon bombing — emergency personnel, bomb squad members, first responders and hospital staff.

The recent Boston Marathon bombings exemplify the value of New Mexico Tech in supporting the responding agencies. Tech provided educational courses for over 500 first responders in the Greater Boston metro area, and over 1,500 officers in Massachusetts.

A first responder at NMT/EMRTC recon a homemade explosives lab.

Additionally, New Mexico Tech’s expertise in explosives has been a valued asset for local, state, and national agencies as the nation has witnessed the use of explosive devices in acts of terrorism. The recent Boston Marathon

13th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of KARST.

Since 1984, “The Sinkhole Conference” series has been among the most significant in creating a better understanding of karst processes that result in environmental problems.

Now under NCKRI’s management, on May 6 to 10, 2013, the conference attracted 113 people from eight countries. The conference’s 52 papers highlighted effective methods to identify karst impacts before they occur, prevent them from occurring, and remediate them when they do occur.

The 480-page proceedings are available for free download from the NCKRI website, the Karst Information Portal, and www.sinkholeconference.com where information on the upcoming 2015 Sinkhole Conference in Rochester, Minn., is posted.
The IRIS PASSCAL Instrument Center provides core field and data support for Earth science research in earthquake, volcano, geological, glaciological, and other fields supported by the National Science Foundation, the U.S. Department of Energy, and other funding agencies. The Center supports the nation’s largest pool of research seismological instrumentation and facilitates training, logistics, and data management support for researchers and students from throughout the U.S. and the world. PASSCAL also works within the larger IRIS Consortium of research universities and research organizations, and with the National Science Foundation, in advancing new generations of seismological equipment and research. During 2013 the IRIS PASSCAL Instrument Center supported 57 scientific investigations on six continents, and supported several notable projects. The CDCAT, Turkey project is developing a 3-D lithospheric image to better understand surface-to-mantle dynamics during continent collision and escape. The Quebec-Maine Array project is an investigation of North American continental lithospheric structure, from the center of the craton to the rifted edge, crossing three major tectonic boundaries. The GCFlood project used a controlled flood event within the Grand Canyon to better understand the generation of seismic signals by rivers. Finally, the Mendenhall Glacier project provides direct observations of the seasonal evolution of subglacial drainages in temperate glaciers where ice melts quickly.

The Petroleum Recovery Research Center at New Mexico Tech has been the research arm of the oil and natural gas industry in New Mexico since its establishment as a research division at New Mexico Tech by the State Legislature in 1977. The PRRC’s research focuses on improved methods of enhanced oil and gas recovery and diversified energy technologies related to the oil and gas industry, and continuously expands to embrace important new areas. These now include oilfield water purification technology, polymer research, carbon capture, utilization and storage, nanotechnology, and chemical/optics sensors. The PRRC is committed to Tech’s educational mission. Students work in various aspects of research, and the majority of graduates have gone on to employment in academia and industry. In 2013, PRRC supported 17 graduate students, 17 undergraduates, and one high school intern, including students from Petroleum Engineering, Mechanical Engineering, Materials Engineering, Computer Science, Chemistry, Technical Communication, Engineering Management, and Earth and Environmental Science. PRRC research projects also progressed in 2013. An innovative apparatus for cleaning produced water is under development, and new ways of oil recovery from oil shales are being explored. The use of carbon dioxide foams and polymers in enhanced oil recovery continued to be investigated. Work continued on development of a nanotechnology carbon dioxide sensor for harsh downhole conditions. The Southwest Partnership, led by PRRC for New Mexico Tech, has a new Phase III site, the Farnsworth Unit, an enhanced oil recovery operation, which is presently utilizing anthropogenic CO₂ alone for enhanced oil recovery. Phase III will represent an $88 million, 10-year measurement, monitoring, and verification (MMV) effort for SWP’s research scientists. PRRC also continued its collaborative activities and its one-on-one outreach to identify the needs of New Mexico producers; in 2013, PRRC met with producers to investigate new opportunities for collaboration with industry.
ADMISSION OFFICE
The Admission Office is responsible for recruiting new students to New Mexico Tech, both traditional freshmen and transfer students. Tech recruiters focus their efforts on eight Western states: Texas, California, New Mexico, Colorado, Arizona, Washington, Alaska and Nevada. Recruiting efforts pay special attention to Hispanic areas. The recruiting plan also focuses on outreach in Science, Technology, Engineering and Math niche groups. Special efforts are made to attract high school students involved in extracurricular activities such as the Science and Engineering Fair, Science Olympiad, Supercomputing Challenge, robotics competitions, Math Bowl and other similar events.

In 2013, Admission Office recruiters began attending high school programs around the state as guests of the N.M. Educational Assistance Foundation. The Admission Office hosts two special recruiting days: Research@Tech Day in February and Exploration Day in November. In 2013, these events experienced record attendance by high school students and their parents. Recruiting efforts also experienced an increase in individual visits to campus by potential students, including high school students and transfer students from other universities. These efforts lead to Tech’s highest student population in the fall of 2013, with 2,134 students enrolled at Tech.

ADVANCEMENT OFFICE
The Office of Advancement and Alumni Relations is responsible for private fundraising, and keeping in touch with alumni through publications, social media and an online directory. The 20th annual President’s Golf Tournament in 2013 raised close to $200,000 for scholarships. Advancement also established an Annual Fund that includes a Parent Fund and an Alumni Fund, and leads an annual phone-a-thon to reach alumni. The Advancement Office also is beginning a “Major Giving Program” to promote philanthropy.

PHYSICAL RECREATION
The Physical Recreation office operates the gymnasiums, organizes intramural sports, and administers student clubs and special events. It sponsors the Owl Bar run twice a year with 40 to 50 participants each semester. The recent addition to the department is the outdoor sand volleyball pit on the athletic field. In 2013, 10 teams registered for the outdoor intramural league.

INTERNATIONAL AND EXCHANGE PROGRAMS
New Mexico Tech hosts 107 students, from bachelor’s to Ph.D. level, from 26 countries. The programs help students maintain legal status to be in the U.S., and assist 34 students in maintaining their Occupational Practical Training in the U.S. after graduation. The office also organizes the popular Global Village Day that highlights the cultures of Tech’s international students. With the Writing Center, the office hosts a chile roast in the fall. The Conversational Café provides a weekly venue for the practice and use of English. These programs also host the Study Abroad Experience, with Tech students studying in Botswana and Spain in 2013.
CAREER SERVICES
Tech’s Fall Career Fair featured 101 recruiters from 46 companies, including Chevron, ConocoPhillips, Intel, Honeywell, Halliburton and Freeport-McMoRan. More than 600 students visited with the recruiters throughout the day. The Etiquette Dinner and Fashion Show is an event that instructs students on how to manage a business meal and how to dress for different situations. The Career Closet allows students to borrow professional attire for interviews, the Career Fairs, and presentations. The Closet collects donations from Tech and community members.

MULTICULTURAL PROGRAM
The Multicultural Program at Tech houses the NSF AMP assistantship program, which provides support to students who are involved with undergraduate research, and encourages students to obtain master’s and Ph.D. degrees.

FINANCIAL AID
Tech Tuition Assistance (Tech’s bridge to the Legislative Lottery Scholarship) paid full tuition for the first semester for 270 students, more than $650,000. The Legislative Lottery Scholarship and the New Mexico Scholars scholarship helped 655 students, totaling more than $2.4 million. The Financial Aid Office assisted 884 students with merit-based scholarship programs, totaling more than $2.4 million, and processed federal and state grants, work study, and loans for 815 students, totaling $6.7 million. The average indebtedness for students completing a bachelor’s in 2013 was $19,900.

UPWARD BOUND MATH AND SCIENCE
Upward Bound Math and Science is a pre-college program for at-risk high school students in Albuquerque. It provides extensive academic support that includes weekend and evening activities, a six-week summer residential component, and college-placement services.

UPWARD BOUND
A federally funded program designed to prepare first-generation, low-income students to enter college and improve academic enrichment and college readiness. Upward Bound offers tutoring, campus visits, college admissions help, financial aid workshops, and personalized attention. Qualified students are invited to spend six weeks on campus in Socorro each summer to familiarize them with the college atmosphere and dorm life.

COUNSELING AND DISABILITY SERVICES
During the 2012-13 school year, the office served 208 students, up from only 46 students in the 2003-04 school year. In 2013, the room used to proctor student exams was updated, and now can proctor six students at a time. The office uses assistive technology to provide students with access to the curriculum, including “Smart” pens, “Smart” classrooms, and an FM system for the hearing impaired.

AUXILIARY SERVICES
Auxiliary Services sponsors various activities and events to increase student interaction in the Fidel Center. The office hosted Monday Night Football, March Madness events, a Super Bowl party, “Backyard Barbecue” in the fall with a live band, games and a chile roast. Other events include a Halloween Billiards Bash, a “Rockabilly Spring Swing” dance with a live band and costume contests, and the very popular Magic Card Tournaments.

RESIDENTIAL LIFE
New Mexico Tech opened a new 150-bed residential hall in 2013. The Residential Life office incorporated “Reflective Engagement Programming,” allowing for earlier detection of students needing academic help; and initiated a program for Tech students to tutor youngsters at the Boys & Girls Ranch. The office sponsors programs to increase social justice and diversity awareness, including the Red Flag Campaign for sexual assault awareness and the introduction of speakers at Convocation.
MACEY FAMILY CHILDREN’S CENTER
This year, the Macey Family Children’s Center launched an after-school program, and four training sessions for early childhood teachers. The Center held two intervention screening days in conjunction with Casa Alegre, and also started the Toy Lending Library for local families. Enrollment has continued to increase and doubled from the initial opening of the Center two years ago. The Center continues to be a lab resource for students enrolled in Psychology 232 lab.

MACEY CENTER
Macey Center continues to support local, state and national artists as a venue to display their art work. The venue also hosts more than two dozen PAS events during the year. Other events include the Festival of the Cranes, Science Fair, Science Olympiad, Good Samaritan Christmas Tree Auction, National Dance Institute and Merry-Achi Christmas.

GOLF COURSE
The New Mexico Tech Student Golf Club membership increased by 18 percent in 2013. The course hosted the 20th annual President’s Golf Tournament with over 300 golfers. The Golf Course offers community college classes and hosts eight Tech student fundraising golf tournaments. It also sponsors monthly events to celebrate the 60th anniversary of the course and for the upcoming 125th anniversary of Tech.

NMT STUDENT HEALTH
Student Health has been a state Influenza Sentinel Site since 2007, offering free flu vaccines for the staff and student population, and other free vaccines to clients under the age of 19. Staff members teach monthly First Aid and CPR classes. Since 2012, Student Health has partnered with Western New Mexico University to teach a Nursing Assistant class at Socorro High School.

PERFORMING ARTS SERIES
The PAS has a 30-year history of presenting high-quality, multicultural performances in a wide variety of genres to students and the Socorro community. During the 2012-2013 season, more than 2,400 Tech student tickets were used to attend Performing Arts Series performances. Some highlights from the season: H’Sao, an Afro-pop band with strong a capella harmonies, held a meet-and-greet dinner at the Fidel Center. The group also staged two youth performances, one for 700 Socorro County students and one for 300 students from the Alamo Navajo Reservation. More than 400 people, including 200 students, attended Street Beat, an urban rhythm and dance with recycled percussion troupe, in April. In October, 72 “Proud Parents” attended the “Hot Club of Cowtown,” with their Tech student sons and daughters, providing an entertaining way to spend quality family time with a show that appealed to all ages.
SPECIAL PROJECTS
CONSTRUCTION PLANS
The Office of Special Projects in 2013 began preliminary design work for the construction of a new building for the Chemistry Department. Tech requested $16 million from the state and received top recommendations from the Department of Finance, the Higher Education Department and the Legislative Finance Committee. This project will be a top priority during the 2014 Legislative Session. Tech is proposing a new 50,000 square-foot state-of-the-art facility for the Chemistry and Materials Engineering departments.

BUREAU OF GEOLOGY
The Bureau of Geology and Mineral Resources construction contract was successfully negotiated and awarded during 2013. The new 85,000 square-foot, three-story building is scheduled for completion and occupancy by the Bureau of Geology in March 2015. The total budget is $24 million and is funded from State General Obligation Bonds and Severance Tax Bonds.

PRESIDENTS HALL
The Presidents Hall dormitory is currently undergoing renovation. Constructed in 1939, the hall has received only cosmetic and minor improvements over the years. This $1.5 million project will replace the building’s mechanical systems, plumbing, electrical and HVAC systems, which are all original and have outlived their usefulness. This project will be completed by May 2014.

FACILITIES MANAGEMENT
The mission of the Facilities Management Group is to provide the New Mexico Tech campus, students, faculty and staff with a safe, secure infrastructure and an aesthetically pleasing environment. In 2013, this department improved campus parking, including a new 125-vehicle lot. FM established an electricity usage monitoring network in an effort to examine energy savings potential. FM installed a new irrigation system for the Athletic Field, which included re-sodding and leveling. FM also upgraded all of Tech’s residential buildings.

HUMAN RESOURCES
The Human Resources Department provided 14 staff development sessions, with more than 300 employees attending. HR hosted the annual benefits fair, attended by over 600 employees and retirees, which included the unveiling of a new wellness component to the health insurance program.

SPONSORED PROJECT ADMINISTRATION
The Restricted Funds/Sponsored Projects Department provides fiscal support to faculty, staff and sponsoring agencies. The department acts as a liaison with all auditors, and monitors financial activity for compliance to the award’s terms and conditions. In late 2012, SPA successfully completed an EPA review and a Department of Justice desk review. Early in 2013, SPA staff worked closely with EMRTC to streamline travel procedures for the First Responder program. In mid-2013, the office successfully completed the audit of federal programs.

BUSINESS OFFICE
The New Mexico Tech Business Office oversees general accounting, cashier procedures and services, tuition and fee payment, accounts payable, and IRS reporting. The Business Office also contributes its share of quarterly reports as required by the state’s Fiscal Watch program. The Business Office successfully tested disaster-recovery situations for year-end payroll and successfully implemented Employee Retirement Board changes, as required by House Bill 564.

BUDGET and ANALYSIS
The primary functions of the New Mexico Tech Office of Budget and Analysis are to provide budget oversight, communicate with the Department of Higher Education, assist with financial reporting and provide financial database administration. The Office has developed new reports to analyze the institution’s financial activity and more closely scrutinize the budget. The Office is also
expanding the integration of the system modules for Banner, the university’s main software system.

BUREAU OF MINE SAFETY
The Bureau of Mine Safety at New Mexico Tech is responsible for performing inspections of all mines in the State of New Mexico to determine the compliance with all state laws. The State Mine Inspector has the authority to inspect every mine in the state as often as necessary. The Bureau of Mine Safety conducts four major programs: Safety and Health Training, Safety Certification, Emergency Response Coordination and Public Outreach. The Bureau provided education for 2,200 miners in 2013 and collaborated with industry, federal agencies, unions and miners in making New Mexico one of the safest mining states in the nation with accident statistics below the national average. The Bureau of Mine Safety hosted the New Mexico Mine Health and Safety Conference for the sixth consecutive year, once again held at Macey Center in Socorro.

CAMPUS POLICE
The New Mexico Tech Police Department is a full-service police agency open 24/7. Officers are accredited through the New Mexico Police Academy. Certified officers receive a minimum of 40 hours of bi-annual training, including advanced training. In addition to law enforcement functions, Campus Police provides a variety of non-emergency services to the campus community. Notably, the Campus Police are available 24/7 to provide rides or escorts to any student who may feel unsafe. Campus Police replaced about 80 percent of all fire alarm systems throughout campus in 2013. A mapping system also has been installed in the dispatch center, which can monitor the buildings and the location of the sensors within them. Campus Police is currently establishing an Emergency Operations Center on the south side of the Police Station in the SAC building. Along with Information Services Division, Campus Police installed a new emergency notification system that can send emails, automated phone calls or text messages to nearly all students and employees.

PURCHASING DEPARTMENT
The New Mexico Tech Purchasing Department ensures that the university follows the New Mexico State Procurement Code and Federal Acquisition Regulations as well as university policies and procedures. The Purchasing Department also manages the Procurement Card and Gas Card programs. In February 2013, the Regents approved a new Purchasing Policy and Purchasing Procedures. The Purchasing Office hosted training sessions for faculty and staff to introduce them to the Policy and Procedures.
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